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Galaxy

MAGAZINE

SCIENCE FICTION

THE WHITE KING'S WAR
by
Poul Anderson

STARHUNGER
by
Jack Wodhams

WHEN THEY OPENLY WALK
by
Fritz Leiber

THE MINUS EFFECT
by
A. Bertram Chandler

WILLY LEY

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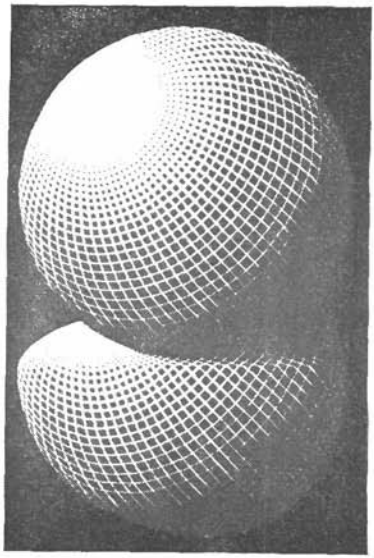

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MAGAZINE

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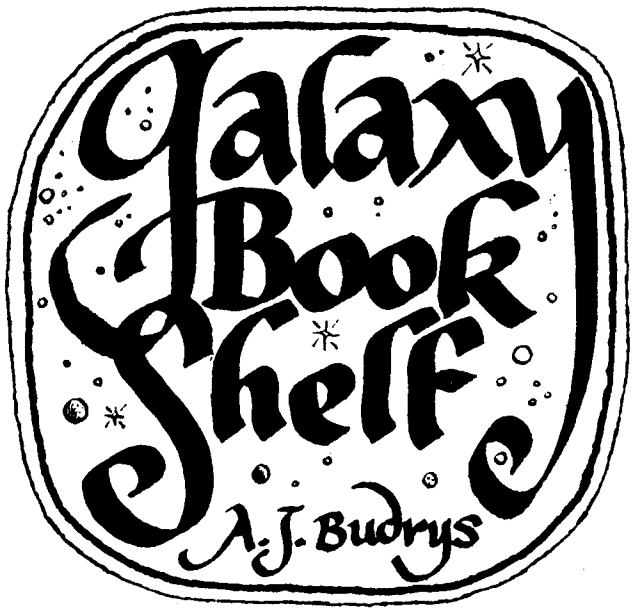

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Informed Sources by Willard Bain

The Silkie by A.E. Van Vogt

Oracle of the Thousand Hands and *Star* by Barry Malzberg

Another Look at Atlantis and Fifteen Other Essays by Willy Ley

IT'S SOMETIMES very difficult for the would-be writer to grasp that, like the plumber, he will find his craftsmanship not always as important to his success as might be an ability to deal with people. People who buy services have a tendency to place their orders in terms of implicit solutions, rather than problems. Thus, the householder cries

(*Please turn to Page* 149)

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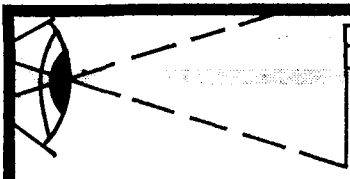

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THE WHITE KING'S

by POUL ANDERSON

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WAR

Flandry followed his greed beyond the barriers of life. And found himself in a battle for survival against a terrifyingly familiar and murderous intelligence—his own!

THE SUN that men had once named Mimir burned with four times the brightness of Sol but at a distance of five astronomical units it showed as a tiny, bluish-white firespot too intense for the unshielded eye. Covering its disc with a finger, one became able to see the luminous haze around it—gas, dust, meteoroids, a nebula miniature in extent but as thick as any that could be found anywhere in the known universe—and the spearpoints of light created by reflection within that nebula. Elsewhere darkness swarmed with remoter stars and the Milky Way foamed around heaven.

Somewhat more than four million kilometers away from the scoutboat, Regin spread over two and a half times as much sky diameter as Luna seen from Terra. The day side of the giant planet cast sunlight blindingly off clouds in its intensely compressed atmosphere. The night side had an ashen-hued glow of its own, partly from aurora, partly from the luminosity rebounding off a score of moons.

They included Wayland; this satellite dominated the forward viewscreen. The boat was heading straight down out of orbit. The vision of stark peaks, glacier fields, barren plains, craters old and eroded or new and huge, was hardly softened by a thin blanket of air.

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Lieutenant (j.g.) Dominic Flandry, Imperial Terrestrial Navy, sent his hands dancing over the pilot board. His vessel was technically Comet class but antiquated and minimally equipped. Without a proper conning computer, he must make his approach manually. The task did not bother him. Having gotten the needful data during free fall around the globe, he had only to keep alert to his instruments and direct the grav drive accordingly. For a twenty-one-year-old brain that is in charge of a tall, lithe body more trained and experienced than most, the operation was a dance with the boat for partner and to the lilt of cosmic forces.

He whistled a waltz tune through his teeth.

Nonetheless, he was taut. The faint vibrations of power, the rustle and chemical-sharp odor of ventilation and the pull of the interior weightmaking field stood uncommonly strong in his awareness. He heard the blood beat in his ears.

Harnessed beside him, Djana exclaimed, "You're not aiming for the centrum. You're way off."

He spared her a look. Even now—and even with suspicion hardening her features—he enjoyed the sight.

"Of course," he said.

"What? Why?"

"Isn't it obvious? Something mighty damn strange is going on there. I'm not about to bull straight in. Far better we weasel in." He grinned. "Though I'd rather just continue tomcatting."

"If you try to pull any—"

"Let's have no she-wolfing." Flandry gave his attention back to the board and screen. His voice went on abstractedly: "I'm surprised at you. I am for a fact. A hooker so tough—albeit delectable—not taking for granted we'd reconnoiter first. I'm going to put us down in that crater—see it? Ought to be firm ground, though we'll give it a vibro test before we cut the engine. With luck any of those flying weirdies we saw—if one happens to pass overhead—should register us as another piece of meteorite. Not that I expect any will chance by. This may be a miniworld but it wears a lot of real estate. I'll leave you inboard and do a verree cautious lookabout. And don't think I don't wish our kit included a repulsor harness."

His whetted senses registered her shiver. The first during their voyage. But then, she was a creature of cities and machinery, not of the Big Deep. Illimitable immensity and loneliness had chilled burlier spirits than hers.

And there was also that mystery they had observed from orbit: where a complex of robots ought to have been at work—or at least quietly waiting out the

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centuries—an inexplicable criss-cross of lines had been drawn across at least a hundred square kilometers in front of the old buildings and a traffic of objects like nothing ever seen before except in bad dreams was taking place. Daunting, yes. Left to himself, Flandry would have gone back for reinforcements. But to do so would be awkward under present circumstances. Besides, at his age he dared not admit to any girl that he could be scared.

He felt a brief touch of pity for her. He knew she was as gentle, loving, and compassionate as a cryogenic drill. But she was beautiful—small, fine-boned, with exquisite features, great blue eyes and honey-gold hair—a quality he considered a positive virtue. Apart from insisting that he prepare meals—and he was undoubtedly far the superior cook—she had accepted the cramped austerity of the boat with wry good humor. During their three weeks of travel she had given him freely of her talents, which must command a high price at home. While her formal education in other fields was scanty, between times she had proven an entertaining talkmate. Half enemy she might be, but Flandry had allowed himself the imprudent luxury of falling only slightly in love with her and he felt he owed her something. No other scouting sweep had been as pleasant.

Now she faced the spacefarer's truth, that the only thing we know for certain about this universe is that it is implacable. He wanted to reach across and console her.

But the vessel was entering atmosphere. A thin scream began to penetrate the hull, which savagely bucked.

"Come on, *Jake,*" Flandry said. "Be a good girl."

"Why do you always call the boat *Jake*?" his companion asked, obviously trying to get her mind off the crags lancing toward her.

"*Giacobini-Zinner* is a bit ridiculous," he answered her, "and the code letters can't be fitted into anything bawdy." *I refrain from inquiring what you were called as a child—I prefer not to believe in, say, an Ermintrude Bugglethwaite who invested in a biosculp job as well as a house name . . .* "Quiet, please," he said aloud. "This is tricky work. Thin air means high-velocity winds."

The engine growled. Interior counteracceleration force did not altogether compensate for normal lurching—the deck seemed to stagger. Flandry's hands flew, his feet shoved pedals and occasionally he spoke an order to the idiot-grade central computer that the vessel did possess. But he'd done this sort of thing before, more times than he could remember. He would make planetfall without real trouble.

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Then they came. The flyers.

HE HAD only a moment's warning of them. Djana screamed as they whipped from a veil of driving gray cloud. They were metal, bright in the light of Mimir and of Regin's golden horizon-scraping dayside crescent. Wide, ribbed wings upbore sticklike bodies, grotesque empennage, beaks and claws. The flyers were smaller than the spacecraft but they numbered a score or worse.

They attacked. They could do scant harm directly. Their hammering and scraping resounded wildly in the hull. But however frail by the standards of a real ship, the Comet was built to resist heavier buffetings. The assailants did, though, rock it. Wheeling and soaring, they darkened vision. More terribly, they interfered with radar, sonic beams and every probing of every instrument. Suddenly, except for glimpses as they flashed aside, Flandry was piloting blind. The wind sent his boat reeling.

He stabbed flame out of the single spitgun in the nose. A flyer exploded in smoke and fragments. Another, wing sheared, spun away to destruction. The rest were too many, too quickly reacting.

"We've got to get out of here!" he heard himself yell and piled on power.

Shock smashed through him. Metal screamed. Images whirled in the screens. In an instant he saw what had happened. Without sight or sensors, in the turbulence of the air, he had descended farther than he knew. His spurt of acceleration had sideswiped a mountaintop.

No time for fear. He became the whole craft. Two thrust cones remained, not enough to escape with but maybe enough to set down on and not spatter. He ignored the flock and fought for control of the drunkenly unbalanced grav drive. If he made a straight tail-first descent, the force would fend off the opposition. He would have an uncluttered scan aft that he could project onto one of the pilot-board screens and use for an eyeballed landing. If he could hold her upright.

If not, he was dead.

The noise lessened to wind whistle, engine stutter and drumbeat of beaks. Through abating sounds he was faintly astonished to hear Djana. He shot her a glance. Her eyes were closed, her fingers twisted together and from her lips poured ancient words, over and over.

"Hail Mary, full of grace—"

And he had thought he had come to know her.

II

THEIR acquaintance had only begun after Flandry struck his

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bargain with Leon Ammon. That had been toward the end of a night on the Imperial frontier world Irumclaw.

Soon after the red-orange sun had set, the Terran had left the Naval compound where he was quartered and had walked downhill. No one had paid him any heed. A former commandant had tried to discourage his young men from seeking the not undangerous corruptions of Old Town. He had declared a large part of it flat-out off limits. Meeting considerable of the expenses out of his own pocket, he had started an on-base recreation center which was to include facilities for sports, arts and crafts—as well as honest gambling and medically certified girls. But the bosses below knew well how to use money and influence. The commandant was transferred to a still more bleak and insignificant outpost. His successor dismantled what had been built, informed the men jovially that what they did off duty was their own business and was said to be drawing quite a nice little extra income.

Flandry sauntered in elegance. The comets gleaming on both his shoulders were so new that one might have looked for diffidence from him. But his cap was tilted more rakishly on his seal-brown hair than a strict interpretation of rules would have allowed. His frame was draped in a fantastic glittergold version of dress tunic and snowy trousers tucked into handmade beefleather boots. The cloak that fluttered behind him glowed with phosphorescent patterns through the chill dusk. And while he strolled he sang a folk ballad concerning the improbable adventures of a Highland tinker.

It made a good cover for the fact that he was not on pleasure bound but on possibly lethal business.

Beyond the compound walls the homes of the wealthy loomed amidst the grandly downsweeping private parks. In a way, Flandry thought, they epitomized man's trajectory. Once the settlement had been sufficiently large and prosperous and sufficiently within the Imperial sphere to attract not only merchants but aristocrats. Old Town had bustled busily with culture as well as with commerce—provincial, no doubt, a couple of hundred light-years from Terra but live and genuine, worthy of the respectful emulation of the autochthons.

Tonight Irumclaw lay like a piece of wreckage at the edge of the receding tide of empire. Such mansions as were not standing hollow had become the property of oafs and showed it. The oafs were not to be laughed at. Many of them directed large organizations devoted to preying on the spacemen who visited and the Navy men who guarded what

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transshipment facilities remained in use. Outside the treaty port boundaries barbarism rolled forward as the natives abandoned civilization with what was perhaps justifiable contempt.

PAST THE residential section workshops and warehouses hulked black in the night and Flandry moved alert with a hand near the needle gun under his tunic. Robberies and murders had happened here. Lacking the police to clean out this area—assuming he even wanted to—the commandant had settled for advising men on liberty to go through in groups.

Flandry had been shocked to learn as much when he first had arrived.

"We could certainly do it ourselves—establish regular patrols—if he'd order it. Doesn't he care? What kind of chief is he?"

His protest had been delivered in private to another scout, Lieutenant Commander Eisenschmitt. The latter, having been around a while, had shrugged.

"The kind that any place like this gets," he had answered. "We don't rate attention at GHQ—so naturally we're sent the hacks, boobs and petty crooks. Good senior officers are too badly needed elsewhere. When Irumclaw does get one, it's an accident and he isn't here long."

"Damn it, man, we're on the border." Flandry had gestured out the window of the room where they sat. It had been dark then, too. Betelgeuse glowed bloody and brilliant among the hosts of stars where no writ ran. "Beyond that buffer region—Merseia."

"Yeh. And there our great greenskinned 'gator-tailed rivals continue expanding in all directions—except where we bar the way. I know. But this is the far edge of nowhere in the eyes of an Imperial government that can't see past its own perfume-sniffing nose. You've just come from Terra, Dom. You ought to understand that better than I. I expect we'll pull out of Irumclaw entirely inside another generation."

"No—can't be. Why, a pullout would leave this whole flank exposed for six parsecs inward. We'd have no way of protecting its commerce—"

"Uh-huh." Eisenschmitt had nodded. "On the other hand, the commerce isn't too profitable any more. Less each year. And think of the saving to the Imperial treasury if we end operations here. The Emperor should be able to build a dozen new palaces complete with harems."

Flandry had not been able to agree at the time. He had been too freshly out of a fighting unit and a subsequent school where competence was demanded. Over the months, though, he saw things

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for himself and drew his own sad conclusions.

There were moments when he would have welcomed a set-to with a bandit. But it had not happened—nor did it on this errand into Old Town.

The district grew around him, crumbling buildings left over from pioneer days, many of them simply the original beehive-shaped adobes of the natives, slightly remodeled for other life forms. Streets and alleys twisted about under flimmering glowsigns. Traffic was chiefly pedestrian, but constant noise beat on the eardrums—clatter, shuffle, clop and clangor, raucous attempts at music, more than a hundred different languages, once in a while a muffled scream or a bellow of rage. The smells were equally unpleasant and strong—body odors, garbage, smoke, incense, dope. Humans predominated, but quite a few autochthons were present and space travelers of numerous different breeds circulated among them.

OUTSIDE a particular joyhouse, otherwise no different from the rest, an Irumclavian used a vocalizer to chant in Anglic: "Come one, come all, come in, no cover, no minimum. Every form of amusement, pleasure and thrill. No game too exotic, no stakes too high or low. Continuous sophisticated entertain-

Ballantine Books

Department of deathless prose for August. Well it's really silly season (spring), but we have to get this written because by the time ad-writing time rolls around we'll be away—and after that like it's the Convention and all.

So. Splendid August. Headed by Robert Silverberg, authoring a book that he described (when selling the idea to his publisher) as "fast, funny, bawdy, black-humored, and peculiar." (This probably proves he knows his publisher.) But the book is all of that and one helluva lot of fun besides. We feel it is fitly paired with another robust and elegant writer (now, by God, you can't say that about many writers), namely James Branch Cabell. They have a lot of qualities in common. Both love a paradox (the paradoxia in UP THE LINE you wouldn't *believe*), both can be Rabelaisian without being coarse, both admire wit and so indulge themselves in it, and both enjoy a sly sense of humor. And both are as distinctively individualistic as it's possible to be. In case you're wondering what the books are:

Robert Silverberg
UP THE LINE

James Branch Cabell
THE SILVER STALLION

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In addition, we have Edmund Cooper's SEED OF LIGHT—The colony star ship that takes generations to get to its destination. It seemed right, somehow, to do this one with our non-fiction book, APPOINTMENT ON THE MOON by Richard S. Lewis.

Last month we wrote about so many titles that we couldn't really do them all justice. As it was, you probably needed a magnifying glass. We'd like to mention again the Fred Pohl—C. M. Kornbluth group.

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ment. Delicious food and drink, we have stimulants, narcotics, cinogens, emphasizers, to your order, to your taste, to your purse. Every sex and every technique of seventeen, yes, seventeen distinct species ready to serve your desires—and this does not count racial, mutational and biosculp variations. Come one, come all—"

Flandry went in. He happened to brush against two or three of the creature's arms. The blue integument felt cold in the cold air.

The entrance hall was hot and stuffy.

An outsize human in a gaudy uniform said, "Welcome, sir. What is your wish?"

The eyes resting upon him were like chips of black ice.

"Are you Lem?" Flandry responded.

"Uh, yeh. And you?"

"I am expected."

"Urh. Take the gravshaft to the top—that's the sixth floor. Go left down the hall to a door numbered six-six-six, stand in front of the scan and press the button. When it opens, go up the stairs."

"Six-six-six?" murmured Flandry, who had read a bit more than was common in his service. "Is Citizen Ammon a humorist by any chance?"

"No names." Lem dropped a hand to the blaster at his hip. "On your way, kid."

Flandry obeyed, even to letting

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himself be frisked and leaving his gun at the checkstand. He was glad when Door 666 admitted him—that was the sado-maso level and he had glimpsed things.

The office he entered sealed itself noiselessly behind him. It recalled Terra in its size and opulence and in the animation of a rose garden which graced a wall. Then he looked more closely and saw the shabbiness of the old furnishings, the garishness of the new. No other human save Leon Ammon was present. A Grozunian mercenary stood like a hairy statue in one corner. When Flandry turned his back, the being's musky scent continued to remind him that if he didn't behave he could be plucked into small pieces.

"Good evening," said the man behind the desk. He was grossly fat, hairless, sweating and not especially clean, although his scarlet tunic was of the finest. His voice was high and scratchy. "You know who I am, right? Sit down. Cigar? Brandy?"

Flandry accepted everything offered. It was of prime quality. He said so.

"You'll do better than this if you stick by me," Ammon said. His smile went no deeper than his mouth. "You haven't told about the invitation my man whispered to you the other night?"

"No, sir, of course not."

"Wouldn't bother me if you did. Nothing illegal about inviting a young chap for a drink and a gab. Right? But you could be in trouble yourself. Mighty bad trouble—and not merely with your commanding officer."

FLANDRY HAD his suspicions about the origin of many of the subjects on the floor below. Brain channeling and surgical disguise worked wonders. He studied the tip of his cigar.

"I don't imagine you'd have asked me here, sir, if you thought I needed threatening," he said.

"No. I like your looks, Dominic," Ammon said. "Have ever since you starting coming to Old Town for your fun. You're cool and tough and closemouthed. I had a check done on your background."

Flandry expanded his suspicions. Various incidents, when he had been leaned on one way or another, began to look like engineered testing of his reactions.

"Wasn't much to find out, was there?" he said. "I'm only a fresh-minted j.g. Just a former flyboy reassigned to Intelligence, sent back to Terra for training and now here for scouting duty."

"I can't really compute that," Ammon said. "If they aim to make you a spy, why have you spent months flitting in and out of this system?"

"I need practice in surveillance, especially of planets that are

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poorly known. And the no-man's-land yonder needs watching. Our Merseian chums could build an advanced base there, for instance, or start some other kettle boiling, unbeknownst to us, if we didn't keep scout boats sweeping around."

"Yes, I got that answer before when I asked—and it still sounds to me like a waste of talent. But it got you to Irumclaw and I did notice you and had you studied. I learned more than stands on any public record, boy. The whole Starkad business pivoted on you."

Shocked, Flandry wondered how deeply the decadence had eaten if the agent of a medium-scale vice boss on a tenth-rate outpost planet could obtain such information.

"Well, your tour here'll soon be up," Ammon said. "Precious little to show for it, right? Right. How'd you like to turn a profit before you leave? A mighty nice profit, I promise you." He rubbed his hands. "Mighty nice."

"Depends," Flandry said. If he had actually been investigated as thoroughly as it appeared, there was no use in pretending he had private financial resources or that he didn't require them to advance his career. "The Imperium has my oath."

"Sure, sure. I wouldn't ask you to do anything against His Majesty. I'm a citizen myself, right? No, I'll tell you exactly what I want done—if you'll keep your mouth shut."

"It would doubtless not do me any good to blab, the way you'll tell me."

Ammon giggled.

"Right. You're a sharp one, Dominic. Handsome, too," he added exploringly.

"I'll settle for the sharpness and buy the handsomeness later."

Ammon sighed and returned to business. "All I want is for you to survey a planet for me. You can do it on your next scouting trip. Report back—confidentially, of course—and it's worth a flat million in small bills or in whatever shape you prefer." He reached into his desk and extracted a packet. "Take the job and here's a hundred thousand on account."

"I have to carry out my assignment," Flandry objected.

"I know, I know. I'm not asking you to skimp it. I told you I'm a loyal citizen. But if you jogged off your track a while—it shouldn't cost more than a couple of weeks extra—"

"Cost me my scalp if anyone found out," Flandry said.

Ammon nodded. "That's how I'll know I can trust you to keep quiet. And you'll trust me, because suborning an Imperial officer is even today a capital offense—anyhow, it usually is when it involves a matter like this."

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"Why not send your personal vessel to look?"

Ammon laid aside his mannerisms. "I haven't got one. If I hired a civilian, what hold would I have on him? Especially an Old Town type. I'd likely end up with an extra mouth in my throat once the word got around what's to be had out there. Let's admit it—even on this miserable crudball I'm not so big." He leaned forward. "But I want to become big," he said. The lust smoldered in eyes and voice—he shook with the intensity of it. "Once I know from you that the operation's worthwhile then I'll quietly sink everything I own into building up a reliable outfit. We'll work secretly for the first several years, sell our stuff through complicated channels, sock away a fortune. Then maybe I'll surface, doctor the story a bit, start paying taxes, move to Terra—maybe buy a patent of nobility, maybe go into politics—I don't know. But I'll be big—do you understand?" Ammon dabbed at his glistening forehead. "It wouldn't hurt you, having a big friend. Right?"

Associate. Never friend. . .

"I suppose I could cook my log, record how trouble with the boat caused delay. She's a superannuated jalopy and inspections are lax. But you haven't yet told me, sir, what the bloody dripping hell this is all about."

"I will, boy. I will." Ammon mastered his emotions. "It's a lost treasure. Listen. Five hundred years ago the old Polesotechnic League had a base here. You've heard?"

FLANDRY nodded wistfully. He would much rather have lived in the high and spacious days of the trader princes—when no distance and no deed looked too vast for man—than in this twilight of empire.

"It got clobbered during the Troubles, didn't it?" he said.

"Right. However, a few underground installations survived. Not in good shape. Not safe to go into. Tunnels apt to collapse, full of nightskulks—you know. Now I thought those vaults might be useful for—never mind. I had them explored. A microfile turned up. It gave the coordinates and galactic orbit of a planetary system out in what's now no man's land. Martian Minerals, Inc., was mining one of the worlds. They weren't publicizing the fact. You remember what rivalries got to be like toward the end of the League era. That's the main reason why knowledge of the system was completely lost. But it was quite a place for a while."

"Rich in heavy metals," Flandry pounced.

Ammon blinked. "How did you guess?"

"Nothing else would be worth

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exploiting by a minerals outfit at such a distance from the centers of civilization. Yes." His own excitement surged in Flandry. "A young, metal-rich star with corresponding planets, on one of them a robotic base. It was robotic, wasn't it? High-grade central computer—consciousness grade, I'll bet—directing machines that prospected, mined, refined, stored and loaded the ships when those called. Probably manufactured spare parts for them, too, and did needful work on them as well as expanding its own facilities. You see, I don't suppose a world with that many violently poisonous elements in its ground would be easily colonizable by men."

"Right. Right." Ammon's chins quivered with his nodding. "A moon, actually, of a planet bigger than Jupiter. More massive, that is—a thousand Terras—though the file does say its gravity condensed it to a smaller size. The moon itself—Wayland they named it—Wayland has about three per cent the mass of Terra but half the surface pull. It's that dense."

That dense. . .

Mean specific gravity circa eleven. Uranium, thorium—probably still some neptunium and plutonium—and osmium, platinum, everything rare simply waiting to be scooped out—my God! My greed . . .

FROM behind a rather hard-held coolness he drawled, "A million doesn't seem extravagant pay for opening that kind of opportunity to you."

"It's plenty for a look-see," Ammon said. "That's all I want of you—a report on Wayland. I'm taking the risk, not you. Suppose it turns out the place is no good. I'll be short a million for nothing. More than a million, actually. Then there's the hire of an agent—reliable ones don't come cheap. And supplies from him and transporting them to a spot where you can pick them and him up after you've taken off for some other planet in this system. Consider yourself lucky I'm this generous."

"Wait a minute," Flandry said. "An agent?"

Ammon leered. "You don't think I'd let you travel alone, do you? What would prevent your telling the government you'd 'happened' to come on Wayland? Not that that'd be worth a lot. Why should the bureaucrats care when there's nothing in it for them but extra work? You might think differently, though. Right? Right. So my agent will ride along and give you the navigational data after you're safely away in space. He'll never leave your side till you've returned and told me personally what you found. Afterward, as a witness to your behavior while on active duty—a

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witness who'll testify under hypnoprobe if need be—why, he'll be my insurance against any change of heart you might suffer."

Flandry blew a smoke ring. "As you wish," he conceded. "It'll be rather cozy, two in a Comet. But let's discuss this further, shall we? I think I will take the job if certain conditions can be met."

Ammon would have bristled were he able.

"Conditions? From you?"

Flandry waved his cigar. "Nothing unreasonable, sir," he said airily. "For the most part, precautions that I'm sure you will agree are sensible and that you may already have thought of for yourself. And that agent you mentioned. Not 'he,' please. It could get fatally irritating, living cheek by unwashed jowl with some goon for weeks. I'm sure you can find a capable and at the same time amiable human female. Right? Right."

But that moment of self-confidence had been back then.

Now he was hurtling downward. To Wayland. . . .

III

He landed skull-rattlingly hard. Weakened members in the boat gave way with various screeches and thumps. Nevertheless, he landed.

At once he bent himself entirely to the spitgun. Locked onto target after target, the beam flashed hell-blue among the attackers that wheeled overhead. A winged thing slanted downward and struck behind the rim of the crater where he had settled. A couple of others took heavy damage and limped off. The remainder escorted them. In a few minutes the last was gone from sight.

High above, out of range, a spark hovered in murky heaven. Flandry focused a viewscreen and turned up the magnification.

"One of our playmates has stayed behind to keep a beady eye on us."

Djana whimpered.

"Pull yourself together," he snapped. "You know how. Insert Part A in Slot B, bolt to Section C, et cetera. In case nobody's told you—we have a problem."

Mainly he was studying the indicators on the board while he unharnessed. Some air had been lost and replenished from the reserve tanks but there was no further leakage. Evidently the hull had cracked, not too severely for self-sealing but enough to make him doubt the feasibility of returning to space without repairs. Inboard damage must be worse for the grav field was off—he moved under Wayland's half a terrestrial gee with a bounding ease that aroused no enthusiasm in him—and, oh-oh, indeed, the thermonuclear generator was indeed dead. Light, heat, air and

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water cycles, everything was running off the accumulators.

"Keep watch," he told Djana. "Feel free to scream if you see anything suspicious."

He went aft—past the chaos of galley, head and the more solidly battened-down instrument and life-support centers—to the engine room. An hour's inspection confirmed neither his rosiest hopes nor his sharpest fears. It was possible to fix *Jake*—and the job probably wouldn't take very long—if and only if shipyard facilities were brought to bear.

"So what else is new?" he said and returned forward.

Djana had been busy. She stood in the pilot cabin with all the small arms aboard on a seat behind her—the issue blaster and needler, his private Merseian war knife—except for the stun pistol she had brought herself. That was holstered on her flank. She rested a hand on its iridivory butt.

"What the deuce?" Flandry exclaimed. "I might even ask, what the trey?"

He started toward her. She drew the gun.

"Halt," she said.

Her husky voice had gone flat.

He obeyed. She could drop him as he attacked in this narrow space where there was no room to dodge—and secure him before he regained consciousness. He could perhaps work free of any knots she was able to tie, but—he swallowed his dismay and studied her. The panic was gone, unless it dwelt behind those whitened features and drew those lips into disfiguring straight lines.

"What's wrong?" he asked slowly. "My intentions are no more shocking than usual."

"Maybe there's nothing wrong, Nick." She attempted a smile. "I've got to be careful. You understand that, don't you? You're an Imperial officer and I'm riding Leon Ammon's rocket. Maybe we can keep working together. And maybe not. What's happened here?"

"Interesting question," he said. "If you think this a trap for you—well, really, my sweet, you know quite well no functional trap is that elaborate. I'm every bit as baffled as you—and worried, if that's any consolation. I want nothing at the moment but to get back with a whole skin to vintage wine, gourmet food, good conversation, good music, good books, good tobacco, a variety of charming ladies and everything else that civilization is about."

He was ninety-nine per cent honest. The remaining one per cent involved collecting the rest of his million. Though not exclusively.

The girl did not relax.

"Well, can we?"

He told her what the condition of the boat was.

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She nodded. Wings of amber-colored hair moved softly past delicate, finely molded cheekbones.

"I thought that was more or less it," she said. "What do you propose to do?"

Flandry shifted his stance and ran fingers through his hair. "Another interesting question. We can't survive indefinitely, you realize. Considering the outside temperature and other factors, I'd say that if we throttle all systems down to a minimum—and if we don't have to fire the spitgun again—we have accumulator energy for three months. Food for longer, yes. But when the thermometer drops to minus one hundred even steak sandwiches can only alleviate. They cannot cure."

"Will you stop trying to be funny? We need help."

"No point in trying to radio for it," Flandry said. "Air this thin supports too little ionosphere to send waves far past the horizon. Especially when the sun, however bright, is so distant. We might be able to bounce signals off Regin or another moon, except that that would require aiming and monitoring gear our boat doesn't carry."

Her mouth fell open in frank surprise.

"Radio?"

"To the main computer at the mining centrum," Flandry explained. "It was originally a top-level machine, you know, complete with awareness—whatever may have happened to it since. And it commanded repair and maintenance equipment as well. If we could raise it and get a positive response, we should have the appropriate robots here in a few hours and be off on the rest of my circuit in a few days." He smiled lopsidedly. "I rather wish now I had given it a call from orbit. But we've lost that option. We shall simply have to march there in person and see what can be done."

Djana tensed anew.

"I thought that's what you'd figure on," she said, winter bleak. "Nothing doing, lover. Too risky."

"What else?"

She had scarcely begun to reply when he knew the answer. The heart stumbled in him.

"I didn't join you blind," she said. "I studied the situation, whatever I could learn, including the standard apparatus on boats like this. They carry several couriers each. One of those can make it back to Irumclaw in a couple of weeks with a message telling where we are and what we're sitting on."

He protested: "But, listen—the assault on us was hardly the last attempt. I don't know if we can hold out. We'd better leave here, duck into the hills—"

"Maybe. We'll play that as it

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falls. However, I am not passing up the main chance for survival, which is to bring in a Navy ship." Djana's laugh was a yelp. "I know what you're thinking," she went on. "There I'll be, along on your mission. How many laws does that break? The authorities will then investigate further. When they learn about your taking a bribe to do Ammon's work for him in an official vessel—I suppose at a minimum the sentence'll be enslavement for life."

"What about you?" he countered.

Her lids drooped. Her lips closed and curved. She moved her body from side to side.

"Me? I'm a victim of circumstances. I was afraid to object—with all you wicked men coercing me—till I got this chance to do the right thing. I'm sure I can make your commandant see it that way and give me an executive pardon. Maybe even a reward. We're quite good friends, really, Admiral Julian and I."

"You won't get through the month of waiting here without my help," Flandry said. "Certainly not if we're attacked."

"I might or might not," she replied. Her expression thawed. "Nick, darling, why must we fight? We'll have that month to work out a plan for you. A story or—or maybe you can hide somewhere with supplies and I can come back later and get you. I swear I will—" She swayed in his direction. "I swear I want to. You've been wonderful. I won't let you go."

"Regardless," he said, "you insist on sending a message."

"Yes."

"Do you know how to launch a courier? What if I refuse?"

"Then I'll stun you, tie you and torture you till you agree," she said, turned altogether impersonal. "I know a lot about that."

ABRUPTLY it blazed from her. "You'll never imagine how much I know. Remember your boasting to me about the hardships you've met, a poor boy trying to get ahead in the service on nothing but ability? You should've heard me laughing inside while I kissed you. I came up from slavery—in the Black Hole of Catawrayannis. What I've been through makes the worst they've thought of in Old Town look like a children's game. I'm not going back to hell again—as God is my witness, I'm not."

She drew a shaking breath and clamped the visor once more into place. From a pocket she fetched a slip of paper.

"This is the message," she said.

Flandry balanced on the balls of his feet. He might be able to take her if he acted fast and if luck fell his way. And suddenly he knew the risk was needless.

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He pulled in a slow, deep breath.

"What's the matter?" Djana asked.

He shook himself.

"Nothing," he said. "You win. Let's ship your dispatch off."

The couriers were near the main airlock. He walked before her steady gun muzzle. She knew the location. The odds were she could figure out how to operate them herself. The gadgets, four in number, were built as simple as possible. Inside a torpedo shape—a hundred and twenty centimeters long but light enough for a man to lift under Terran gravity—were packed the absolute minimum of hyperdrive and gray drive machinery; sensors and navigational computer to home on a pre-set destination; radio to beep advance notice when it neared; accumulators for power and a tiny space for the payload, which could be a document, a tape or whatever else would fit.

Ostentatiously obedient, Flandry opened one compartment and stepped aside while Djana laid in her letter and closed the shell. He slid the courier forward on the launch rack.

He said, "I'd like to set this for a sixty-second delay."

"Why?"

"So we can get back to the conn and watch it take off. To be sure that it does, you know."

"That makes sense." Djana hefted the gun. "I'm keeping you covered till it's outbound, understand?"

"Logical. Later can we both be uncovered?"

"Be still."

Flandry deftly activated the mechanism and returned forward with her. They stared out.

THE VIEW was of desolation Their boat lay close by the crater wall, which sloped steeply aloft until its rim stood fanged in heaven, three kilometers above. Its palisades reached so far that they vanished under the near horizon before their opposite side became visible. The darkling rock was streaked with white, which also covered the floor—carbon dioxide and ammonia snow. This was starting to vaporize in Wayland's sixteen-day time of sunlight. Fogs boiled and mists streamed, exposing the bluish gleam of eternal water ice.

Overhead the sky was deep violet, almost black. Stars glittered wanly across most of it, for at this early hour Mimir's fierce disc barely cleared the ringwall in that sector where it went behind the curve of the world. Regin was half a dimness mottled with intricate cloud patterns, half of it shining like burnished steel.

A whistling wind came in through the hull.

Behind Flandry, Djana said to him with unexpected forlornness, "When the courier's gone,

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Nick, will you be good to me?"

He made no immediate reply. His shoulder and stomach muscles ached from tension.

The torpedo left its tube. For a moment it hovered, while the idiot pseudo-brain deep within recognized it was on a solid body and which way was up. It rose. Above atmosphere it would take sights on beacons such as Betelgeuse and lay a course to Irumclaw.

Djana screamed.

The spark high above had struck. As a single point of glitter the joined machines staggered across the sky.

Flandry went to the viewscreen and set the magnification. The courier had nothing but a parchment-thin aluminum skin, soon ripped apart by the flyer's beak while the flyer's talons held tight. The courier had ample power to shake off its assailant but not the wit to do so. Besides, the stresses would have wrecked it anyway. It continued to rise but didn't get far before some critical circuit was broken. That killed it. The claws let go and it plummeted to destruction.

"I thought that might happen," Flandry murmured.

The flyer resumed its station. Presently three others joined it.

"They must have sensed our messenger," Flandry said. "No use trying to loft more. We need their energy for other things."

Djana crumpled weeping into his arms. He stroked her hair and made soothing noises.

At last she collected herself, looked at him and said, "You're glad, aren't you?"

"Well, I can't say I'm sorry," he admitted.

"You'd rather be dead than—"

"Than a slave? Yes, 'fraid so."

She considered him for a while.

"All right," she said quietly. "That makes two of us."

IV

He had nearly topped the ringwall when the bugs found him.

His aim was to inspect the flyer which had crashed on the outer slope, while Djana packed supplies for the march. Perhaps he could get some clue as to what had gone wrong here. The possibility that those patrolling would spot him and attack seemed among the least of the hazards ahead. He could probably find a cave or crag or crevasse in time—a shelter where they surely couldn't get at him—on the rugged craterside. Judiciously applied at short range, the blaster in his hip sheath ought to rid him of them in view of what the spitgun had just accomplished—unless, of course, they summoned so many reinforcements that he ran out of charge.

Nothing happened. Tuning his spacesuit radio through its entire

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range of reception, he came upon a band where there was modulation—clicks and silences, a code reeling off with such speed that in his ears it sounded almost like an endless ululation, high-pitched and unhuman. He was tempted to transmit a few remarks on those frequencies but decided not to draw unnecessary attention to himself. At their altitude, he might well be invisible to the flyers.

The rest of the available radio spectrum was silent, except for the seethe and crackle of cosmic static.

And the world was silent, too, except for the moan of wind around him, the crunching of snow and rattling of stones as his boots struck, the noise of his own breath and heartbeat. The crater floor was rock, ice, drift of snow and mists, wan illumination that would nonetheless have burned him with ultraviolet rays had his faceplate let them past. Clouds drove ragged across alien constellations and the turbulent face of Regin. The crater wall lifted brutal before him.

Climbing it was not too difficult. Erosion had provided ample footing and handholds and in this gravity, even burdened with space armor, he was lighter than when nude under Terran pull. He adapted to the changed ratio of weight and inertia with an ease that would have been unconscious had he not remembered it was going to cause Djana some trouble and thereby slow the two of them down. Other than keeping a nervous eye swiveling skyward the chief nuisance he suffered was due to imperfections of the air renewal and thermostatic units. He was soon hot, sweating and engulfed in stench.

I'll be sure to fix that before we start. And give the service crew billy hell when and if I return. Though what's the use? They're sloppy because the higher echelons are incompetent because the Empire no longer really cares about holding this part of the marches. In my grandfather's day we were still keeping what was ours—mostly. In my father's day, the slogan became conciliation and consolidation—meaning retreat. Is my day—my very own personal bit of daylight between the two infinite darknesses—is it going to turn into the Long Night?

He clamped his teeth together and climbed more vigorously.

Not if I can help it. . .

The bugs appeared.

They hopped from behind boulders and ice banks, twenty or more, soaring toward him. Some thirty centimeters long, they had ten claw-footed legs each, a tail ending in twin spikes, a head on which half a dozen antennae moved. Mimir's light shimmered purple off their intricately armored bodies.

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For a second Flandry seriously wondered if he had lost his mind. The old records said Wayland was barren, always had been, always would be. He had expected nothing else. Life simply did not evolve where cold was this deep and permanent, air this tenuous, or metal this dominant or the background radiation this high. And supposing a strange version of it could. Mimir was a young sun, coalesced with its planets only a few hundred megayears ago from a nebula enriched in heavy atoms by earlier star generations. The system hadn't yet finished condensing, as witness the haze around the sun and the rate of giant meteorite impacts. There had not been time for life to start.

Thus Flandry's thoughts flashed. They stopped when the shapes were murderously upon him.

Two landed on his helmet. He heard the clicks, and then felt their astonishingly heavy impact. Looking down, he saw others at his waist, clinging to his legs, swarming around his boots. Jaws chomped and claws dug. They found the joints in his armor and went to work.

No living thing smaller than a Llynathawrian elephant wolf should have been able to make an impression on the alloys and plastics that encased Flandry. He saw shavings peel off and fall like sparks of glitter. He saw water vapor puff white from the first pinhole by his left ankle. The creature that made it gnawed industriously on.

Flandry yelled an obscenity. He shook one loose and managed to kick it. The shock of striking that mass hurt his toes. The bug didn't arc far, nor was it injured. It sprang back to the fray. Flandry was trying to pluck off another. It clung too strongly for him.

He drew his blaster, set it to needle beam and low intensity, laid the muzzle against the carapace and pulled trigger.

The creature did not smoke or explode or do whatever else a normal organism would. But after two or three seconds it let go, dropped to the ground and lay inert.

The rest continued with their senseless, furious attack. Flandry cooked them off him and slew with a series of energy bolts those that hadn't reached him. No organism that size, that powerful, that heavily shelled, ought to have been that vulnerable to his brief, frugal beams.

The last two were on his back where he couldn't see them. He widened the blaster muzzle and fanned across the renewal unit. They dropped off him. The heat skyrocketed the temperature in his suit and drove air faster out of the several leaks. Flandry's eardrums popped. His head roared and whirled.

Training paid off. Scarcely

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aware of what he did, he slapped sealpatches on the holes and bled the reserve tank for a fresh atmosphere. Only then did he sit down, gasp, shudder, and finally wet his mummy-dry mouth from the water tube.

Afterward he was able to examine the dead bugs. Throwing a couple of them into his pack, he resumed climbing. From the top of the ringwall he discerned the wrecked flyer and slanted across talus and ice patches to reach it. The crash had pretty well broken it to bits, which facilitated study. He collected a few specimen parts and returned to *Jake*.

The trip was made in a growingly grim silence that he scarcely broke when he reentered the boat. Aloneness and not knowing had worn Djana down. She sped to welcome him. He gave her a perfunctory kiss, demanded food and a large pot of coffee and brushed past her.

V

THEY HAD about two hundred kilometers to go. That was the distance according to the maps Flandry had made in orbit, from the scoutboat's resting place to a peak so high that a transmission from it would be line-of-sight with some of the towering radio transceiver masts he had observed at varying separations from the old computer centrum.

"We don't want to get closer than we must," he explained to the girl. "We want plenty of room for running if we find out that operations have been taken over by something that eats people."

"Where could we run to?"

"That's a good question. But I won't lie down and die gracefully. I'm far too cowardly for that."

She didn't respond to his smile. He hoped she hadn't taken his remark literally, even though it contained a fair amount of truth.

The trip could be shortened by crossing two intervening maria. Flandry refused.

"I prefer to skulk," he said.

He laid out a circuitous path through foothills and a mountain range that offered hiding places. While it would often make the going tough—and Djana was inexperienced and not in training and they would be burdened with supplies and gear—he hoped they could average thirty or forty kilometers per twenty-four hours. A pitiful few factors operated in their favor. There was the mild gravity and the absence of rivers to ford and brush to struggle through. There was the probably steady weather. Since Wayland always turned the same face to Regin, there was continuous daylight for the span of their journey, except at noon when the planet would eclipse Mimir. There was a more than ample supply of stimulants.

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And it helps to travel scared. . .

He decreed a final decent meal before departure—and music and lovemaking and a good sleep while the boat's sensors kept watch. The party fell rather flat. Djana was too conscious that this might be the last time. Flandry made no reproaches. He did dismiss any vague ideas he might have entertained about trying for a long-term liaison with her.

They loaded up and marched. Rather, they scrambled across the crater wall and into a stretch of raw hills and wind-polished, slippery glaciers. Flandry allowed ten minutes' rest per hour. He spent most of those periods working with map, gyrocompass and sextant to make sure they were still headed right. At last Djana declared she could do no more.

He said calculatedly, "Yes, I understand. You're no use off your back."

She spat her rage and jumped to her feet.

HE AGREED to make camp when she began reeling as she walked. He did most of the chores alone.

First he selected a spot beneath an overhanging cliff.

"So our winged chums won't see us," he explained chattily, "or drop on us their equivalent of what winged chums usually drop. You will note, however, that an easy route will take us onto the top of the cliff if we should have callers. From there we can shoot, throw rocks and otherwise hint to them that they're not especially welcome."

Slumped in exhaustion against a crag, she paid him no heed.

He inflated the insulating floor of the sealtent and erected its framework. The wind gave him trouble, flapping the fabric he stretched across until he got it secured. Because the temperature had risen to about minus fifty he didn't bother with extra layers. He merely filled the cells of the one skin with air.

To save accumulator charge he worked the pump by hand. Extreme decompression was hardly needed, since the Waylander atmosphere was mostly noble gases and nitrogen. The portable air renewer he had placed inside, together with a glower for heat, took care of the remaining poisonous vapors and excess carbon dioxide, once he had refilled the tent with oxygen at two hundred millibars. The equipment for all this was heavy. But it was indispensable—at least until Djana got into such condition that she didn't frequently need the relief of shirtsleeve environment. And she had better shape up. The pump didn't recover a hundred per cent of the bottled life-gas. Given the limitations of what they could carry, they could make perhaps fifteen stops that utilized it. While renewer and glower did

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their work, Flandry chipped water ice for drinking and cooking.

They entered through the plastic airlock. He showed Djana how to bleed her spacesuit down to ambient pressure. When they had taken off their armor she lay on the floor and watched him from eyes glazed by fatigue. He fitted together his still, put it on the glower and filled it with ice.

"Why?" she whispered.

"Might have unpleasant ingredients," he answered. "Ammonia we could simply boil off under a hood—but I suspect heavy metal salts. Doesn't take but a micro-quantity of plutonium, say, this far from medical care, to kill you in a rather nasty fashion. I suppose you know we daren't smoke in a pure oxy atmosphere."

She shuddered and turned her eyes from the bleakness in the ports.

DINNER revived her somewhat. Afterward she sat hugging her legs, chin on knees, and watched him clean the utensils. In the cramped space, his movements were economical.

"You were right," she said gravely. "I wouldn't have a prayer without you."

"A hot meal, albeit freeze-dried, does beat pushing a concentrate bar through your chowlock and calling it lunch, eh?"

"You know what I mean, Nick. What can I do? Please let me help."

"You can take your turn watching for monsters," he said immediately.

She winced. "Do you really think—"

"No. I don't think. Too few data yet to make it worth the trouble. Unhappily, though, one datum is the presence of at least two kinds of critter whose manners are as deplorable as they are inexplicable."

"But they're machines—"

"Are they?"

She stared at him from under tangled, tawny bangs.

He said while he labored, "Where does 'robot' leave off and 'organism' begin? For hundreds of years there've been some sensor-computer-effector systems more intricate and versatile than some kinds of organic life. They function, perceive, ingest, have means to repair damage and to be reproduced. They homeostatize, if that horrible word is the one I want. Certain of them think. None of it works identically like the systems evolved by any organic animals and sophonts—but it works. And toward very similar ends. Those bugs that attacked me have metal exoskeletons and electronic insides underneath that purple enamel. That's why they succumbed so easily to my blaster—high heat conductivity, raising the temperature of components designed for Wayland's

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natural condition. Nevertheless they're machinery as elaborate as any I've ever ruined. As I told you, I hadn't the time or means to do a proper job of dissection. But as near as I could tell, they run off accumulators. Their feelers are beautifully precise sensors—magnetic, electric, radionic, thermal, et cetera. They have optical and audio systems as well. In fact, with one exception, they're such gorgeous engineering that it's a semantic quibble whether to call them robots or artificial animals. Same thing, essentially, holds for the flyers—which, by the way, I'm tempted to call snapdragon flies. They get their lift from the wings and a VTOL turbojet. They use beak and claws to rip rather than grind metal. But they have sensors and computers like the bugs. And they seem able to act more independently—as you'd expect with a larger 'brain' capacity."

He put away the last dish, settled back and longed for a smoke.

"What do you mean by one exception?" Djana asked.

"I can imagine a robotic ecology, based on self-reproducing solar-cell units that'd perform the equivalent of photosynthesis," Flandry said. "In fact, I believe it's been experimented with. But these things we've met don't have anything I can identify as systems for ingestion, repair or reproduction. There is no doubt they have someplace to go for the various replacement parts and the energy recharges—someplace where new ones are also manufactured; most likely, that is the centrum area. But what about the wrecked ones? There doesn't seem to be any interest in reclaiming those exquisite parts—or even the metal. It's not an ecology, then. It's open-ended. Those machines have no purpose except destruction." He drew breath. "In spite of which," he said, "I don't believe they're meant for guarding this world or any similar job. Because who save a lunatic would build a fighting robot and omit guns? Somehow you see, Djana, Wayland's come down with a plague of monsters. Until we know how many of what kinds—I suggest we proceed on the assumption that everything we meet will want to do us in."

VI

A FEW TIMES in the course of the next several Terran days the humans deftly concealed themselves when metal shapes passed by. These might be flyers cruising far overhead—in one instance abruptly swooping on some prey hidden by a ridge—or a pair of dog-sized, huge-jawed, sensor-bristling hunters loping six-legged on quest—or a bigger object, horned and spike-tailed, rumbling on caterpillar treads

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along the bottom of a ravine. Twice Flandry lay doggo and watched combats—bugs swarming over a walking red globe with lobsterish claws; a constrictor shape entangled with a mobile battering ram. In both cases, the end result appeared to confirm his deductions. The vanquished were left where they fell while the victors resumed prowling. Remnants from earlier battles indicated the same aftermath.

Otherwise the journey was nothing but a struggle to make distance. There was little opportunity while afoot, little energy while at rest, to think about the significance of what had been seen. Nor did Flandry worry about encountering a killer. If it happened, it happened. On the whole, he didn't expect that kind of trouble. This land was too vast and rugged. With due caution he and Djana ought to make their first objective. What occurred after that might be a different story.

He did notice that the radio traffic got steadily thicker on the nonstandard band the robots used. No surprise. He was nearing what had been the center of operations—which must still be the center of whatever the hell was going on nowadays.

Hell indeed. Had somebody sabotaged Wayland, maybe long ago, by installing a predator factory? Or by reprogramming the original computer? Or had it been an accident? People may have fought hereabouts—and I suppose a nearby explosion could derange such a machine. . .

None of the guesses seemed reasonable. The beast engines couldn't offer effective opposition to modern weapons. They threatened the lives of two marooned humans; but a single spacecraft, well-armed, well-equipped with detectors, crew alerted to the situation, could probably annihilate them with small difficulty. That fact ruled out sabotage—didn't it? As for damage to the central controlling system: imprimis, it must have had heavy shielding, plus extensive self-repair capability, the more so in view of the meteorite hazard; and secundus, assuming it did suffer permanent harm, that implied a loss of components. It would then scarcely be able to design and produce these marvelous gargoyles.

Flandry gave up wondering.

THE TIME came when he and Djana halted within an hour of the mountaintop that was their goal. They found a cave screened by tall pinnacles and erected the sealtent.

"It's not going to take us any farther," he explained. "If we don't succeed in getting help—and in particular if we provoke a hunt for us—we won't find the burden worth carrying. So it had better be hard to find."

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"When do we call?"

"When we've corked off for about twelve hours," Flandry said. "I want to be well rested."

She herself was tired enough to drop straight into sleep.

In the "morning" his spirits were somewhat restored. He whistled as he led the way upward.

When he stood on the peak he declaimed, "I name thee Mt. Maidens."

All the while, though, his attention ranged ahead.

Behind and on either side was the familiar wilderness of rock, ice and sharp-edged shadows. Above gloomed the sky, its scattered stars and clouds, Mimir's searing brilliance now very near the dim, bright-edged shield of Regin. The wind whimpered around. He was glad to be inside his warm if smelly armor.

Ahead, as his topographical maps had revealed, the mountain dropped with a steepness that would have been impossible under higher gravity. That horizon was nearly flat, betokening the edge of the plain where the centrum lay—and the squares he had seen and he knew not what else. Through binoculars he made out the cruciform tops of four radio transceiver masts. Those had risen since man abandoned Wayland. Others were scattered elsewhere in the wilds—from orbit he had identified a few as being under construction by robots of quite recognizable form. He had considered making for one of those sites rather than here but had decided against it. That kind of robot was too specialized even in its "brain" to understand his problem. Besides, the nearest was dangerously far from *Jake's* resting place.

HE UNFOLDED a light, tripod-based directional transmitter. He plugged in the ancillary apparatus, including a jack to his own helmet radio. Squatting, he directed the assembly in its rotation until it had locked onto one of the masts. Djana waited. Her face showed still more gaunt and grimy than his, her eyes hollow and fever-bright.

"Here goes," Flandry said.

He called on the standard band.

"Two humans, shipwrecked, in need of assistance. Respond."

And again. And again. And again. Nothing answered but the fire-crackle of cosmic energies.

He tried on the robots' band. The digital code chittered with no alteration that he could detect.

He tried other frequencies.

After an hour or more he unplugged and rose. His muscles ached, his mouth was dry, his voice hoarse.

"No go, I'm afraid."

Djana had been seated on the sanitary unit from her pack. He watched her shrink into herself.

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"So now we're finished," she mumbled.

He sighed. "The situation could be more promising. The big computer should have replied instantly to a distress call." He paused. The wind blew, the stars jeered. He straightened. "One obvious move. I'm going for a first-hand look."

"Out in the open?" She scrambled erect. Her gauntlets closed spastically around his. "You'll be swarmed and killed—"

"Not necessarily. We saw from the boat that things do appear to be different yonder from elsewhere. For instance, none of the accumulated wreckage you'd expect if fighting went on. Anyhow, it's our last resort." Flandry patted her in a fatherly way—he might as well under present conditions. "You'll stay in the tent, of course, and wait for me."

She moistened her lips.

"I'll come along," she said. "You could get killed."

"Rather that than starve to death—as I will if you don't make it. I won't handicap you, Nick. Not any more. If we aren't loaded down the way we were. I can keep up with you. And I'll be extra hands and eyes."

He pondered. "All right, if you insist."

She's more likely to be an asset than not—a survivor type like her. I suspect she's got more than one motive for this. Exemplia gratia, to make damn sure I don't gain anything she doesn't get in on. Not that a profit seems very plausible . . .

VII

As THEY neared the plain Mimir went into eclipse.

The last arc of brilliance edging Regin vanished with the sun. The planet showed as a flattened black disc overlaid with faint flickering auroral glow and ringed with sullen red where light was refracted through atmosphere.

Flandry had anticipated it. The stars, suddenly treading forth many and brilliant and the small crescents of two companion moons ought to give sufficient illumination for cautious travel. At need, he and Djana could use their flashbeams, though he would rather not risk drawing attention.

He had forgotten how temperature would tumble. Fog started forming within minutes until the world was swirling, shapeless murk. It gave way after a while to snow borne on a lashing, squealing wind. Carbon dioxide mostly, he would have guessed—maybe some ammonia. He leaned into the thrust, squinted at his gyrocompass and slogged on.

Djana caught his arm.

"Shouldn't we wait?" he heard faintly through the noise.

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He shook his head before he remembered that to her he had become a shadow.

"No. A chance to make progress without being spotted."

"First luck we've had."

Flandry refrained from observing that when the storm ended they might be irrevocably far into a hostile unknown.

For a while, as they groped, he thought the sonic pickups in his helmet registered a deep machine rumble. Did he actually feel the ground quiver beneath some great moving mass? He changed direction a little without saying anything to the girl.

In this region eclipse lasted close to two hours. The station would have been located on farside, escaping the darknesses altogether, except for the offsetting advantage of having Regin high in the night sky. When full, the planet must flood this hemisphere with soft radiance, an impossibly beautiful sight.

Not that the robots ever gave a damn about scenery—unless maybe the central computer—yes, I suppose. Imperial technology doesn't use many fully conscious machines—little need for them when we're no longer adventuring into new parts of the galaxy—so I, at any rate, know less about them than my ancestors did. Still, I can guess that a "brain" that powerful would soon necessarily develop interests outside its regular work. Its function—its real desire, to get anthropomorphic—was to serve the human masters. But in between prospectings, constructions, visiting ships, when routine could only have occupied a minor part of its capacity, did it turn sensors onto the night sky and admire?

DAYLIGHT began to filter through the snowfall. The wind died to a whimper. The ground flattened rapidly. Before the precipitation had quite ended fog was back, the newly frozen gases subliming under Mimir's rays and recondensing in air.

Flandry said, low and by sonic transmission: "Radio s i l e n c e. Move quiet as you can."

It was hardly a needful order. Earplugs were loud with digital code and a metallic rattle came from ahead.

Once more Wayland took Flandry by surprise. He had expected the mists to lift slowly—as they'd done near dawn—giving him and Djana time to make out something of what was around them before they were likely to be noticed. For minutes the white did veil them. Two meters away, wet ice and rock, tumbling rivulets and steaming puddles faded into smoky nothing.

It broke apart. Through the rifts he saw the plain and the machines. The holes widened with tearing rapidity. The fog broke

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into cloudlets which puffed aloft and vanished.

Djana screamed.

Knowledge then struck through Flandry.

Damn me for a witling. Why didn't I think? It takes a long while to heat things up again after half a month of night. But not after two hours. And evaporation goes fast at low pressures. . .

That was at the back of his brain. Most of him saw what surrounded him. The blaster sprang into his hand.

Though the mountain was not far behind, soaring from a knife-sharp boundary, he and Djana had passed by the nearest radio mast and were down on the plain. Like other maria on Wayland, it was not perfectly level; it rolled, reared in scattered needles and minor craters, seamed itself with narrow cracks and was bestrewn with rocks and overlaid in places by ice banks. The travelers had entered the section that was marked into squares. More than a kilometer apart, the lines ran arrow straight, east and west, north and south, farther than he could see before curvature shut off vision. He happened to be near one and could identify it as a wide streak of black granules driven permanently into the stone.

What he truly saw in that moment was the robots.

A hundred meters to his right went three of the six-legged lopers. Somewhat farther off on his left rolled a horned and treaded giant. Still farther ahead—but not too far to catch him—straggled half a dozen different monstrosities. Bugs by the score leaped and crawled across the ground. Flyers were slanting down the cleared sky. He threw a look to the rear and saw retreat cut off by a set of legs upbearing a circular saw.

Djana cast herself on her knees. Flandry crouched above, teeth skinned, and waited in the racket of his heart for the first assailant.

There was none.

The killers ignored them.

Nor did they pay attention to each other.

Relief sent Flandry's mind whirling. When he had recovered he saw that the machines were converging on a point. Nothing at all appeared above the horizon—their goal was still too distant. He knew what it was, though—the central complex of buildings.

Djana began to laugh, the sound wilder and wilder. Flandry didn't think they could afford hysteria. He hauled her to her feet.

"Turn off that braying before I shake it out of you."

Words did not work. He took her by the ankles, held her upside down and made his threat good.

She sobbed and gulped and wrestled her way back to control

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while he held her in a more gentle embrace and studied the robots across her shoulder. Most were in poor shape. Holes were torn in their skins. Limbs were missing. No wonder he'd heard them rattle and clank in the fog. Some looked unhurt aside from minor scratches and dents. Probably their accumulators were about drained.

In the end he could explain to her.

"I always figured those that survived the battles would get recharge and repair in this area. I daresay the critters never wander too far from it—and we did spot construction work. The setup's being steadily expanded, probably new centers are planned. At any rate, this place seems to be trucial. Elsewhere, they're programmed to attack anything that moves and isn't like their own particular breed. Here they're perfect little lambs. Or so goes my current guess."

"We're safe, then?"

"I wouldn't swear to that. What's caused this whole insanity? But I think, anyhow, we can proceed."

"Where to?"

"The centrum, of course. Giving these fellows a respectful berth. They seem to be headed a little offside. Probably their R & R stations lie some ways from the main computer's old location."

"Old?"

"We don't know if it exists any longer," Flandry reminded her.

Nonetheless he walked with ebullience. He was still alive. How marvelous that his arms swung, his heels smote ground, his lungs inhaled and his unwashed scalp itched. Regin had begun to wax, the thinnest of bows drawing back from Mimir's incandescent arrowpoint. Elsewhere were glittering stars. Djana walked silently, exhausted by emotion. She'd recover.

He was actually whistling a little as they crossed the next line. A moment later he took her arm and pointed.

"Look."

A new kind of robot was approaching from within the square. It was about the size of a man. The skin gleamed softly golden. Iridescence was lovely over the great batlike wings that helped the springing of its two long, hoofed and spurred legs. The body was a horizontal barrel, a balancing tail behind, a neck and head rearing in front. With its goggling optical and erect audio sensors, its long muzzle that perhaps held the computer and its mane of erect antennae, that head looked eerily equine. From its forepart, swivel mounted, thrust a lance.

"We could almost call it a rocking-horse fly, couldn't we?" Flandry said. "As for the bread-and-butter fly—" His classical reference was lost on the girl.

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She screamed afresh when the robot wheeled and came toward them in huge soaring leaps. The lance was aimed to kill.

VIII

DJANA was the target. She stood momentarily paralyzed.

"Run," Flandry bawled.

He sped to intercept. The gun flamed in his grasp. Sparks showered where the beam struck.

The girl bolted. The robot swerved and bounded after her. It paid no attention to Flandry. And his shooting had no effect he could see.

Must be armored against energy weapons—unlike the things we've met hitherto . . .

He thumbed the power stud to full intensity. Fire just cascaded blindingly off the metal shape. Heedless, it bore down on the unarmed girl.

"Dodge toward me," Flandry called.

She heard and obeyed. The lance struck her from behind. It did not penetrate the air tank as it would surely have the thinner spacesuit material. The blow knocked her sprawling. She rolled over, crawled up and fled on. Wings beat behind her. The machine was hopping around to get at her from the front.

It passed Flandry. He leaped. His arms locked around the neck of the horsehead. He threw a leg over the body. The wings boomed behind him where he rode.

And still the thing did not fight him, still it chased Djana. But Flandry's mass slowed it, made it stumble. Twisting about, he fired into the right wing. The sheet metal and a rib gave way. Crippled, the robot fell to the ground. It threshed and bucked. Somehow Flandry hung on. Battered, half stunned, he kept his blaster snout within centimeters of the head and kept the trigger held back. His faceplate darkened against furious radiance. Heat struck at him like teeth.

Abruptly came quiet. He had pierced through to an essential part and slain the killer.

He sprawled across it, gasping the parching-hot air into his mouth, aware of undergarments sodden with sweat and muscles athrob with bruises, dimly aware that he had better arise. Not until Djana returned to him did he feel able to.

A draught of water and a stimpill shoved through his chowlock restored a measure of strength. He looked at the machine he had destroyed and thought vaguely that it was quite beautiful. Like a dreamworld knight.

His arm lifted in salute and his voice murmured, "Ahoy, ahoy, check."

"What?" Djana asked.

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"Nothing." Flandry willed the aches out of his consciousness and the shakes out of his body. "Let's get going."

"Yes."

She was suffering worse from reaction than he. Her features looked completely drained. She started off with mechanical strides, back toward the mountain.

"WAIT just a minute." Flandry grabbed her soft shoulder. "Where are you bound?"

"Away," she said without tone. "Before something else comes after us."

"To sit in the sealtent—or at best, the boat—and wait for death? No, thanks." Flandry turned her about. She was too numbed to resist. "Here, swallow a booster."

He had lost all but a rag of hope himself. The centrum was at the far side of the pattern, some ten kilometers hence.

We'll explore a wee bit further, though. There's precious little to lose. . .

A machine appeared. At first it was a spark on the horizon, bright metal reflecting Mimirlight. Traveling fast across the plain, it gained shape within minutes. Flandry cursed. Dragging Djana, he made for a house-sized piece of meteoritic stone. Defense might be possible from its top.

The robot went past.

Djana sobbed her thanks. Flandry recovered from the shock of his latest deliverance after a second. He stood where he was, holding the girl against him, and peered closely. The machine wasn't meant for fighting. It was scarcely more than a self-operating flatbed truck with a pair of lifting arms.

It loaded the fallen lancer aboard and returned whence it came.

"For repairs," Flandry breathed. "No wonder we don't find stray parts in this neighborhood."

Djana shuddered in his arms.

His words slowly shaped the thoughts they uttered: "Two classes of killer robot, then. One is free-wheeling, fights indiscriminately, comes here to get fixed if it can make the trip and doubtless returns to the wilderness for more hunting. While it's here, it keeps the peace. The other kind always stays here, does fight here—though it doesn't interfere with the first kind or the maintenance machines—and is carefully salvaged when it comes to grief." He shook his head in bewilderment. "I don't know if that's encouraging or not." He glanced down at Djana. "How do you feel?"

The drug he had forced on her was taking hold. It was not magical. It could not marshal resources which were no longer there. But for a time he and she

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would be alert, cool-headed, strong, quick-reacting.

And we'd better complete our business before the metabolic bill is presented. . .

"I guess I'll do," she said. "Are you certain we should continue?"

"No. However, we will."

THE NEXT two squares they crossed were empty. One to their left was occupied. The humans kept a taut watch on that robot as they went past. It did not stir. It was a tread-mounted cylinder, taller and broader than a man, its two arms ending in huge smashing mauls, its head—the top of it, anyway, where there were what must be sensors—crowned with merlons like the battlements of some ancient tower. The sight jogged at Flandry's memory. A thought stirred in him but vanished before he could seize it. It could wait. Readiness for another assault could not.

Djana startled him.

"Nick, does each of them stay inside its own square?"

"And defend that particular bit of territory against intruders?" Flandry's mind sprang. And he smacked fist into palm. "By Jumbo, I think you're right! It could be a scheme for guarding the centrum against really dangerous machines that really don't behave themselves on this plain. A weird scheme—but then everything here on Wayland is weird. Yes. The types of wild robot we've seen—and the ambulance and such—they're recognized as harmless and left alone. We don't fit into that program so we're fair game."

"Not all the squares are occupied," she said doubtfully.

He shrugged. "Maybe a lot of sentries are under repair at the moment." Excitement waxed in him. "The important point is that we can get across. Either directly across the lines or over to a boundary and then around them. We simply avoid sections where any machine is. Making sure none are lurking behind a rock or whatever, of course." He hugged her. "Sweetheart, I do believe we're going to make it."

The same eagerness kindled in her. They stepped briskly forth.

A figure that came into view two kilometers farther drew a cry from her. "Nick, a man!"

He jolted to a stop and raised his binoculars in unsteady hands. The object was indeed creepily similar to a large space-suited human. But there were differences of detail. It stood as death-still as the tower thing and it was armed with sword and shield. Rather, its arms terminated in those pieces of war gear. Flandry lowered the glasses.

"No such luck," he said. "Not that it'd be luck. Anybody who's come here and taken charge like this would probably scupper us.

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It's yet another brand of guard robot." He tried to joke. "That means another detour. I'm getting more exercise than I really want."

"You could destroy it."

"Maybe. Maybe not. If our friend the horse was typical, as I suspect, they're pretty well armored against energy beams. And I don't want to waste charge. We used too much in that last encounter. Another fracas and we could be weaponless." Flandry started off on a slant across the square. "We'll avoid him and go past the territory belonging to that comparatively mild-looking chap there."

Djana's glance followed his pointing finger. Remotely gleamed other immobile forms, including a duplicate of the hippoid and three of the android. Doubtless more were hidden by irregularities of terrain or its sharp fall to the horizon. The machine which Flandry had in mind, though, was closer, just left of his intended path. It was another cylinder, taller and slimmer than the robot with the hammers. The smooth bright surface was unbroken by limbs. The cone-shaped head was partly split down the middle—above an array of instruments.

"He may simply be a watcher," Flandry theorized.

They passed. The gaunt, abstract statue was falling behind when Djana yelled.

Flandry spun about. The thing had left its square and was entering the one they were now in.

Dust and sparkling ice crystals whirled in the meter of space between its base and the ground. *Air cushion drive*, beat through Flandry. He looked frantically around for shelter.

"Run."

He retreated, blaster out.

A pencil of white fire struck at him from the cleft head. It missed—but barely. He felt heat gust where the energy splashed and steam exploded.

This kind packs a gun. . .

Reflexively, he returned a shot. Less powerful, his beam hardly shone when it met the alloy hide. The robot moved on in. He could hear the hollow roar of its motor. A direct hit at closer quarters would pierce his suit and body. He fired again and prepared to flee.

If I can divert that tin bastard.

It did not occur to Flandry that his action might get him accused of gallantry. He started off in a different direction from the girl's. Longer-legged, he had a feebly better chance than she of keeping ahead of death, of reaching a natural barricade and making a stand.

Tensed with the expectation of lightning, the hope that his air unit would give protection and not be ruined, he had almost reached the next line when he

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realized there had been no fire. He braked and turned to stare behind.

The robot must have halted right after the exchange. Its head swung back and forth, as if in search. Surely it must sense him.

It started off after Djana.

FLANDRY spat an oath and pounded back to help. She had a good head start but the machine was faster. And if it had crossed one line—wouldn't it cross another? Flandry's boots slammed upon stone. Oxygen-starved, his brain cast forth giddiness and patches of black. His intercepting course brought him nearer. He shot. The bolt went wild. He bounded yet more swiftly. Again he shot. This time he hit.

The robot slowed, veered as if to meet this antagonist who could be dangerous, faced away once more and resumed its pursuit of Djana. Flandry held down his trigger and hosed it with flame. The girl crossed the boundary. The robot stopped dead.

But—but— gibbered in Flandry's skull.

The robot stirred, lifted, and swung toward him. It moved hesitantly, wobbling a little, not as if damaged—but as if puzzled.

I shouldn't be packing a blaster, Flandry thought in the turmoil. *With my shape, I'm supposed to carry sword and shield.*

The truth crashed into him.

He took no time to examine it. He knew simply that he must get into the same square as Djana. An android with blade and scute in place of hands could not crawl very well. Flandry went to all fours. He scuttled backward. The lean tall figure rocked after him. Its limited computer—an artificial brain could reach no decision as to what he was and what to do about him.

He crossed the line. The robot settled to the ground.

Flandry rose and tottered after Djana. She had collapsed several meters away. He joined her.

It lifted in minutes, after his air unit purified the atmosphere in his suit. His stimulated cells drank oxygen. He sat up. The machine that had chased them was retreating to the middle of the adjacent square, another gleam against the dark plain, under the dark sky. He looked at his blaster's charge indicator. It stood near zero. He could reload from the powerpack he carried but his life support outfits needed the energy more. Maybe.

Djana raised herself, fell across his lap and wept.

"It's no use, Nick. We can't make it. We'll be murdered. And if we do get by, what'll we find? A thing that builds killing engines. Let's go back. We can go back the way we came. Can't we? And have a little, little while alive together—"

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"Ordinarily I'd agree with you, dear. But I think I see the truth. The way the bishop behaved. Didn't you notice?"

"Bishop?"

"Consider. Like the knight, I'm sure, the bishop attacks when the square he's on is invaded. I daresay the result of a move on this board depends on the outcome of the battle that follows it. However, a bishop can only proceed offensively along a diagonal. And the pieces are only programmed to fight one other piece at a time—of certain kinds, at that." Flandry stared ahead toward his destination, still hidden by the horizon. "I imagine the androids are the pawns. I wonder why. Maybe because they're the most numerous pieces and the computer was lonely for mankind?"

"Computer?" She huddled against him.

"Has to be. Nothing else could have made this. It used the engineering facilities it had, possibly built some additional manufacturing plant. It didn't bother coloring the squares or the pieces, knowing quite well which was which. That's why I didn't see at once we're actually on a giant chessboard." Flandry all of a sudden grimaced. "If I finally hadn't—we'd have quit, returned and died. Come on." He urged her forward.

"We can't go farther," she pleaded. "We will be set upon."

"Not if we study the layout," he said, "and travel on the squares that nobody can currently enter."

After a while he went on. "My guess is the computer split its attention into several parts. One or more parts to track the wild robots. And two other parts set up to be nothing less than rival chessmasters. That could be why it hasn't noticed something strange is happening today. I wonder if it can notice the unusual any longer without being nudged."

He never got an answer to that, being first too concentrated on threading his way and afterward too busy to ask. He zigzagged off the board with Djana, onto the blessed safe, unmarked part of the land, and walked around the boundary. En route he saw a robot that had to be a king. It loomed four meters tall in the form of a man who wore the indoor dress of centuries ago, goldplated and crowned with clustered diamonds. It bore no weapons. He learned later that it captured by divine right.

They reached the ancient buildings. The worker machines that scuttled about had kept them in good repair. Flandry stopped before the main structure. He tuned his radio to standard frequency.

"At this range," he said to that which was within, "you've got to have some receiver that'll pick up

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my transmission. What do you say?"

Code clicked and gibbered in his earplugs. And then slowly, rustily, but gathering sureness as the words advanced, like the voice of one who rouses from a heavy sleep: "Is . . . it . . . you? A man . . . finally returned? No, two men, I detect—"

"More or less," Flandry said.

"Enter . . . the airlock. Remove your spacesuits inside. It is Earth-conditioned, with . . . furnished chambers. Inspection reveals a supply of undeteriorated food and drink. I hope you will find things in proper order. Some derangements are possible."

IX

FLANDRY AND DJANA had scant chance to talk until they were again in space, completing the rounds that would end back on Irumclaw. She had spent most of the interval in bed, waited on by robots while she recovered. He, bouncing back sooner, had been preoccupied with setting matters on the moon to rights and supervising the repair of *Jake*. The latter job was complicated by the requirement that no clue remain to what had really taken place. He didn't want his superiors disbelieving his entries in the log concerning a malfunction of the hyperdrive oscillator which it had taken him three weeks to fix.

Stark Wayland fell aft at last. Flandry patted Djana's hand.

"Mission accomplished," he said. "I shall expect you to show your gratitude while we return in the ways you know best."

"Well-l-l," she purred. After a minute: "How did you know?"

"Hm?"

"I don't yet understand what the matter was. You tried to explain but I was too dazed."

"It's simple enough," he said entirely willing to parade his cleverness anew. "Once I saw we were caught in a chess game everything else fell into place. For instance, I remembered those radio masts being erected in the wilds. An impossible job unless the construction robots were free from attack. Therefore, it seemed that the ferocity of the free-ranging machines was limited to their own kind. Another game, you see, with more potentialities and less predictability than chess, even the kind of chess-cum-combat that had been developed after the regular sort got boring. New types of killer were produced at intervals and sent forth to see how they'd do against the older sorts. Our boat—and then later even we ourselves—were naturally taken for such. The robots weren't supplied with information about humans and line-of-sight radio often had them out of touch with the big computer."

"But we tried to call—"

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"You mean from the peak of Mt. Maidens? Well, obviously none of the robots would be able to recognize our signal, on the band they used. And that part of the computer's attention which always 'listened in' on the escapades of its children simply filtered out my voice, the way you or I can fail to hear sounds when we're busy with something else. With so much natural static around, that's not surprising. Those masts were constructed strictly as relays for the robots—for the high-frequency band which carried the digital transmissions—so that's why they didn't buck on my calls on any other band. The computer always did keep a small part of itself alert for a voice call on standard frequencies. But then it assumed that, if and when humans came back, they would descend straight from the zenith and land near the buildings as they used to. It didn't make arrangements to detect people-radio from any other direction."

Flandry puffed. Smoke curled across the viewscreen.

"Maybe it should have done so—at least in theory," he said. "However, after all those centuries the poor thing was more than a little bonkers. Actually what it did—first establish that chess game, then modify it, then extend the range and variety of fights farther and farther across the moon—that was done to save most of its sanity."

"What?"

"Why, sure," Flandry said. "A thinking capability like that, with nothing but routine to handle, no new input, decade after decade—" He shivered. "You must know what sensory deprivation does to organic sophonts. Our computer could rescue itself by creating something complicated and unpredictable to watch." He paused before adding slyly: "I refrain from suggesting analogies to the Creator you believe in."

He regretted it when she bridled and snapped, "We'll want a full report on how you influenced the situation."

"Oh, for the best, for the best," he said. "Not that that was hard. The moment I woke up the White King, the world he'd been dreaming of came to an end." His metaphor went over her head, so he merely continued: "The computer's pathetically eager to convert back to the original style of operations. Brother Ammon will find a fortune in metals waiting for his first ship. I do think you are morally obliged to recommend me highly for a very substantial bonus—which he is morally obliged to pay."

"Morally?" The bitterness of a life which had never allowed her a chance to consider such matters whipped forth. "Who are you to blat about morals, Dominic Flan-

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dry, who took an oath to serve the Empire and a bribe to serve Leon Ammon?"

Stung, he threw back: "What else could I do?"

"Refuse." Her mood softened. She shook her head, smiled a sad smile and squeezed his hand. "No, never mind. That would be too much to expect of anyone nowadays. Let's be corrupt together, Nick, darling, and kind to each other till we have to say goodbye."

He looked long at her and at the stars, where his gaze remained, before he said quietly, "I suppose I can tell you what I've had in mind. I'll take the pay because I can use it—also the risk of being found out and broken. It seems worth that to hold a frontier."

"I don't follow you."

"Irumclaw was due to be abandoned," he said. "Everybody knows—knew—that. Which made the prophecy self-fulfilling. The garrison turned incompetent. The able civilians withdrew, taking their capital with them. Defensibility and economic values spiraled down toward the point where it really wouldn't be worth our rational while to stay. In the end the Empire would let Irumclaw go. And without this anchor point, it would have to pull the whole frontier parsecs back—and Merseia and the Long Night would draw closer." He sighed. "Leon Ammon is evil and contemptible," he went on. "Under different circumstances I'd propose we gut him with a butterknife. But he does have energy, determination, even courage and foresight of sorts.

"I went to his office to learn his intentions. When he told me, I went along because—well—

"If the Imperial bureaucrats were offered Wayland they surely wouldn't know what to do with it. Probably they'd stamp its existence secret to avoid making any decisions or laying out any extra effort. If nothing else, a prize like that would make conciliation and consolidation a wee bit difficult, eh? Ammon, though—he's got a personal profit to harvest. He'll go in to stay. His enterprise will be a human one. He'll make it pay off so well—he'll get so much economic and thereby political leverage from it—that he can force the government to protect his interests. Which means standing fast on Irumclaw. Which means holding this border and even extending control a ways outward.

"In short," finished Dominic Flandry, "as the proverb phrases it—he may be a son of a bitch but he's our son of a bitch."

He stubbed out his smoke with a violent gesture and turned back to the girl, more in search of forgetfulness than anything else.

—POUL ANDERSON

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A lost ship, carrying Earth's dying dreams—and man's eternal—

STAR

by JACK WODHAMS

"FORTY YEARS." Ladlow switched off as the replay came to an end. "Forty years since Swinson and Tulley made the round trip to Centauri. And what do we have to show for it?" He gazed with some bleakness at the wall that held his record copies. "Nothing. A handful of reports—negative, negative, negative." He slouched back in his chair. "Jass, if we don't find some Aztecs soon, the program is going to die. When I took over twenty years ago, there was still plenty of hope to sustain the appropriation. But we

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humans are not indefinitely patient and faith has become the province and preserve of the egghead minority. Jass, we're in a decline and it's going to take something good to pull us out. We've got to find something to show, something bearable, something with promise for people."

Jasper Lemac said, "It really is getting serious, then? I know that in some quarters criticism has been getting more severe lately, but I always understood that the project would not be abandoned. The commitment—"

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Ladlow flapped him down. "Save it. Senator Muldersen died five years ago. His 'Search for a Thousand Years' speech died with him. The vision became tarnished. Look, I don't have to tell you the record. Thirty suns visited—thirty-one counting this last, twenty-four of them F-G-type approximations to our own. And what have we found? Plenty of interesting material and miles of data but not one thing to justify hope. You see one hostile world and you've seen them all."

"There must be compatible planets somewhere. The odds—"

"The odds are against it," Ladlow finished for him. "The permutations are endless—too near, too far, too hot, too cold, too large, too small, too changeable. We humans are too damn fussy. Just because a world has a four-hour day, or has a ninety-degree rotational axis, has a couple hundred million miles difference between aphelion and perihelion or is soggy with methane or—to hell with it. It seems logical to assume that there must be another Earth-similar world somewhere. But from what we've found so far it would be cheaper and make more sense to expand the Mars Observatory. Who in his right mind would want to settle there? We need greener pastures. A spur. Some new fresh place that can hold the promise of high adventure. We need dragons to kill, strange life forms to contend with. I used to smile at conceptions of aliens—but not any more. The less we find the more solitary we get—like a kid in a playground at midnight."

Lemac said, "The life we've found is primitive, maybe, specialized, true—but it's an indication that the basic elements of life are common enough. We have only to persist and sooner or later we are bound to find some more than halfway agreeable satellite."

"Well, yes, that is your belief and faith. If not this time, then maybe next time. It's hope that keeps you going. As captain, you need all the hope you can get. But after this trip, Jass, there might not be a next time."

Lemac nodded. "I get the drift. You think there will be a slowdown after this? You think there's a chance that the opposition may get their way?" He read Ladlow's face. "If I come back again with nothing but the spanlog and the usual collection of samples—it won't help keep the program afloat."

"That's about it," Ladlow said bluntly. "Except that the slowdown's already here. Yours is the last journey that I am confident will be fully funded without hitches. Rayner is due back in a couple years—and if he has nothing from his single hit then much will depend upon you. Owing to the persistent absence of

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inspiring discovery, the craft contractors have had no great incentive to improve their product. You've studied your vessel. The innovations could have been made and costs cut years ago but it was profitable and less trouble to turn out the proven article. You're one of our last hopes. You're an experienced commander with two forays already under your belt. And, knowing what's at stake—it might occur to you to interpret the rules more freely. Third time lucky, eh? Make the most of it. . ."

THIRD time lucky, Lemac thought. With the E.T. differential improved by twenty per cent, he would call not just on one star but three. Lucky three again.

Three stars. No one had ever investigated three systems on one outing before. Ernswiller had once covered two and was given a sinecure desk job afterwards.

This time, Lemac, let us be the ones to find. . .

So far nothing. Yet there had to be. There had to be another like Earth somewhere. Thirty-one suns. Maybe Rayner would hit it with number thirty-two.

Twenty thousand stars, Lemac thought. For him, numbers thirty-t h r e e —thirty-four—thirty-five. Yes. Three of them. Out of the five-year tour, that meant that they would be awake a total of anything up to twelve months.

Lemac stared into darkness. Number thirty-one. Too bad about Dyk and Vladyar. Didn't he know it? The relief of getting home again, the one known livable place in the entire heavens. Whose fault? Theirs? The controllers? One slip, one circuit opening or closing when it should not? In, down, down too fast, sane vessel gone crazy—to smash itself into frenzied white-hot pieces in the Mozambique Channel and hurl shattering fragments, blast and tidal eruption at tiny Mayotte Island.

That, a tragic accident, won little sympathy. People did not understand. The roar of the impact had hardly died before there was a petition for compensation for damages. Dyk, Vladyar and the team? Who cared about them? Spacemen were no novelty. What good did they do, anyway? Nobody begged them to go Out There, did they? They were self-elected mostly, weren't they? They were adventurers, an elite of their own making, bringing back capsules of gas and maybe some bits of rock from a short touchdown—oh, great. Billions and billions spent for a few old lumps of rock, some queer little worms, a dead beetle-thing and a noxious moss-fungus that required the attention of three highly paid technicians to keep it alive—what for, for God's sake?

To hell with space. If they

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could afford that kind of money for that kind of result, then they could put up the hundreds—the few thousands—it would take to re-roof the house and replace the windows.

People.

It was lonely to be a believer. Even on Earth. Especially on Earth. Out There somewhere was another Earth. This Lemac knew. Preacher of the promise of space. No tall stories to substantiate with facts, no giants, no sirens, no hundred-eyed monsters. Oh, God, Lemac thought, what he wouldn't do to have the privilege of discovering a genuine and terrifying monster.

This time. Maybe this time.

Sun #33

"Which of the two shall we tackle first," Copffe debated. "The outer one is closest, but the inner one is—"

"Neither," Lemac said shortly, snapping to a decision. "We're not going in. It would obviously be a waste of time."

Copffe raised his eyebrows. "We have to get atmospheric samples. We could possibly land on the smaller of the two, and—"

"We certainly are not," Lemac reiterated, "going in. Two worlds circling each other on a common orbit may be very interesting, but neither holds the least promise for us."

"Pardon? I don't think I—"

"Here there is nothing within the band of human desirability. The nearest thing to another Earth is the sixth—and that appears to be nicely frosted with carbon dioxide crystals, right? So we're moving on, Mr. Copffe, to see what the next has to offer."

"What? We can't do that, Captain. We have to make a reliable survey, check out the probability factors and correctly list what we have found for future reference. Come, come, Captain, we haven't traveled this far just to take a glance around and buzz off again."

"But assuredly we have," he answered quietly. "I'm feeding the new course into the navicom. Get what you can from out here. In three hours I want us all prepared to sack out again."

Copffe could not take it in. "You do intend to leave? But you can't, Captain. Now, please, this is not a joke. I don't want to quarrel with you or remind you of the limitations upon your authority—but I have my observations to make and I intend to make them. I have to make them. Captain, let us not argue the matter, please."

"I'm not arguing the matter." And Copffe could see that Lemac was indeed in deadly earnest. "In approximately three hours we shall proceed."

"Captain Lemac, this I cannot permit. You must reconsider, and

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at once. Such a decision is too arbitrary. Without any previous discussion or consultation, really, Captain, such ill-considered precipitance has no place in teamwork. Our presence here is first and foremost a scientific undertaking, and I sincerely trust that your stated obligation to the furtherance of knowledge is not to succumb to an irrational response to a familiar disappointment."

"Mr. Copffe, we're going on." Lemac controlled himself. More quietly he said, "I am in charge of this craft, its operation and disposal. It is for me to determine the course that is to be taken, the course most fitting to take."

Copffe reddened. "The vessel has been entrusted to your care that you might serve the specialist personnel on board to the best of your ability. Your jurisdiction is over the management and handling of the vessel under the direction of the scientists on board. I am the head of this expedition in title and in fact. I have respect for you, Captain, which I would like to retain—so let us please have no more of this aberrant proposal to move on. We have a job to do and I intend that we shall do it."

Lemac perspired gently but refused to waver.

Lucky three. Make the most of it. . .

"I'm sorry, Mr. Copffe. I did not expect to meet with your approval. My decision is made and nothing will change it."

Copffe took umbrage. "Captain Lemac, this is inexcusable. I find your attitude is alarmingly uncompromising. I think it would be well to convene all members to discuss this matter more formally. Just to—"

"My mind is made up, Mr. Copfee. Whatever the general opinion, I run this ship and I decide where this ship is to go. It sounds autocratic and yes, it is autocratic. But I feel beyond measure the utter sense of uselessness of painstakingly sounding and then enumerating the value of planets that cursory sighting and test clearly indicate are unsuited to even marginally support human life. We need a live world and we need one badly. We must find that place which humans can readily relate to."

"Oh, come, Captain, please, don't tell me that you subscribe to the belief that there is some wonderful world to be found in the sky. Analysis of the exploratory information gathered to date does not exclude the possibility but the probability is not very high. This you know. But we cannot know how important may be our diligent acquirement of the information that might be revealed here—"

"I'm sorry," Lemac said again, slightly pale but adamant. "I think

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that science has been sufficiently served. What we need now—"

"Captain," Copffe interrupted, "what do you know? You are an agent of your superiors. The codifying of these areas is to an overall concise record beyond your cognizance. You are an instrument—I was given to understand, a capable, experienced and reliable instrument. Now here you confront me, suddenly childishly motivated to run to the next flower before the nectar of this one is tasted."

"There is no nectar here," Lemac growled. "Dead worlds from the sun on out. They have curiosity values, yes, but not to us. To a later generation perhaps. We have no time to linger over patently inhospitable planets."

Copffe's voice rose in exasperation. "Who are you to declare what is and what is not useful? Are you a scientist? You are a servant paid to do a specific task. You far exceed your wisdom when you presume to take absolute command to the detriment of the project."

"The project." Lemac twitched. "What is the project? Is it concerned with people any more? Or is it concerned with things just for the hell of it? There is nothing here for people. It might gratify you to find an odd streak in a spectrum, certainly—but the repetetive message is death. People want life."

"And you want to chase off and find it? Another Earth, really! Captain, I supposed you to be much harder-headed and more pragmatic than that. That you should allow yourself to fall victim to the traditional Spaceman's Dream—"

"You do not believe that such planets do exist?"

"I keep an open mind. Some day perhaps, a world more congenial that the average may be discovered. But sensibly we shall come to it in good time. Flailing off in an attempt to find it sooner reflects a juvenile mentality."

"Yes." Lemac nodded. "You have three hours to sacktime. He pointed with finality at the chronometer. "Use it to learn to dream young and to cram what you can of this system into your records—it's all the time you have here."

He made himself deaf to Copffe's beginning splutterings and was presently alone with his instruments and purpose.

So that was that. Lemac knew the odd relief of conflict resolved. And oh, brother. How more sharply dubious the cause at once became.

Sun #34.

"Copffe is livid," Radsdasti said. "My impression was that he wanted to come storming up to see you but didn't trust himself to be able to speak."

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"Oxygen is one thing, three and a half G's are another." Lemac double-checked co-ordinates, set the navicom to prove out the problem from another angle. "He's still suffering from shock. I don't think he really believed we would pull away so abruptly." His eyes glinted. "He's right in so many ways but wrong in feeling. He doesn't, or just will not recognize it. I'm not sure that I recognize it myself. It's just—something inside cries out. And then something gives and before a man is aware, he has a conviction he finds impossible to deny."

"Well, you sure can't back out now. Did you know this is his first time Out? He keeps calling it a field trip. Jass. He might be more upset than you know."

"I know how upset he is."

"He envisions the end. A three-star call on a souped-up ship could be the last for quite a while. He wanted to cover the systems, turn in superlative reports."

"Yes." Lemac leaned over the console. "It's become a habit." He straightened moodily to pace his short deck. "Copffe doesn't believe in life. He's a super-geologist content to marvel over the colors he gets from enormous rocks through his spyscopes." Lemac spat. "Figures, statistics, correlations." He smacked his palm against a bulkhead. "There must be people out here, or some place where people can be. Not just the Earth. We've got to spread. It can't be empty. I don't know how he can look out there and be so calm when everything he sees says that the only known sanctuary is the Earth. Dusty, there have to be other places."

"That's the way I figure, too." Radsdasti sighed somewhat. "But the alternates sure do hide. Did you ever read about Tasman? He managed to sail all the way around Australia and never sight it once. He went home and said there was nothing there. We're like that. We could so easily be taking a line of dead ones while running parallel to live ones."

"Yes." Lemac rubbed his face. "We can only hope on the next one." He took the step to the plotting table. "The next one." He looked meaningly at Radsdasti. "Sound off the two hours to breakaway."

"This he'll never forgive you."

Sun #35.

"A binary." Lemac stamped his feet and swore. "A binary, by God! How in hell did they come to list that?"

Copffe smiled, not without a flicker of malice. "It's quite an easy error to make. On a plane inclined to our home observatories there is an absence of occulation and the companion is a singularly weak source. It does help to explain the intermittent strength of the titanium bands. I had the

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theory that it would be something of this sort."

"You mean that you guessed it was likely to be a binary?" Lemac choked. "Why didn't you tell me?"

Copffe replied classically, "You never asked." His false sweetness vanished for tartness. "The object of our journeying was to elicit the component structures of three systems. Very slight variations from this star gave rise to several theories—some even conjectured interference by intelligent life. This still could be so. The extremes of climate and gravitational diversity upon the attendant bodies do not necessarily preclude all life but then"—sardonically—"such bodies have little to commend them to human accommodation."

"A binary." Lemac shook his head. "Of all the luck. And you knew. Scientific investigator. A minor discrepancy at home and it's, 'Oh, Mr. Copffee, while you're Out There we'd like you to call and check this to settle an argument.' 'By all means—it is my pleasure. No, no trouble at all. Any little thing to increase the sum and bulk minutiae of knowledge that we'll have no use for, at least not for centuries.'" Lemac's worktable bounced as he thumped a fish upon it. "Dammit, Copffe, can't you see that we need something more now? We've gathered enough facts already to bury us. We've touched the tiniest fraction of our galaxy, but the mass of data is piled high, has grown overwhelming. Not one scrap has been produced to hearten and encourage. Oh, the learned are interested—but do you know the feeling that is gripping people? The feeling we are getting is that the Earth is it, that what Earth has is all there is, that the Earth is the ultimate and the end of the road. And this, Mr. Copffe, when you look through the viewport at infinity, is a terribly frightening thing."

Copffe cleared his throat. "Captain, you can scarcely expect me to appreciate your attitude. Your recent behavior, I confess, quite numbed me. Out of nowhere, most astonishingly, you appear to have abandoned yourself completely to emotionalism. That these suns prove to support no Earth-approximate world is of secondary importance." Copffe held up a hand to halt an impending interjection. "Let me finish. If such a world exists, our steady progression will find it. In the meantime, we have visited three suns—what have we to show for it? As this is the last, perhaps you will permit me to make more than a fleeting inspection? We have had—what? Two hundred waking hours so far? Scarcely a week—and we have occupied three stations. Adding to that the between-time of

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three years—what have we to render upon our return? A sketchy, skimpy, unresolved collection of snippets."

Lemac said, "Let me know when you've finished."

Acidly Copffe continued. "You have repudiated discipline entirely. Five years will have lapsed before our return—five years for my colleagues, who will be presuming that I am reliably carrying out my work. No doubt we shall return somewhat earlier, eh? But it is not I who will answer for the appalling inadequacies of the surveys and the scandalous waste of traveling time. When we get back, Captain—" Words failed him. "In the future, you may be sure, there will be more rigid control of ships' personnel."

"I don't doubt it," Lemac said, not a little sour himself. "But I didn't exactly advertise my sentiments and I don't suppose another man will either. I have thought about this project a long time, Mr. Copffe. Believe me, this was no wild impulse on my part. But as a member of the establishment at home, you are well aware of how an application for a roving commission would have been received. These expeditions tie up too many government and institutional funds to let one man ramble fancy free to cover as much space as possible. So. This is a fling—maybe a last one. I could see no other means to achieve a broader and faster way to eliminate systems."

"You have performed what amounts to an act of piracy—and a lot of good it has done you," Copffe stated. "You have achieved nothing. We can do what we can here to salvage what we may from our abbreviated voyaging, but that will hardly suffice to redeem your gross breach of office."

"No," Lemac said. "It might be tricky, at that. I'd say after this that I was finished in the Service, wouldn't you?"

Copffe blinked. "Yes. That is unavoidable. At this time I feel disinclined to even think about extending pleas on your behalf. However, some acknowledgment on your part and a return to responsible behavior would help your case considerably."

"How nice," Lemac said with faint humor. "Mr. Copffe, I don't think that you have yet fully grasped my intention. We are not staying here and we are not going home. We are going on to the next."

Copffe stiffened. "The next?"

"Yes. We have unquestionably drawn a blank here, right? This being so, be ready by zero-six-five. Shortly thereafter our tail shall be chasing us again."

Sun #36.

"Jonny, he is a dangerous man," Copffe said. "What is worse, Radsdasti and Doil are

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equally affected by him. Thus there is no hope of influencing the crew and of ourselves taking command. We are completely at his mercy. Quite frankly, I'm stumped as to what we might do about it."

Melda Jonson removed a full reel and replaced it from plentiful stock with a fresh one.

"He's a romantic who refuses to let go," she said. "It's touching in a way—but a romantic often is. He can't go on forever, can he?"

"I'm not sure." Copffe ran fingers through his hair. "He is deaf to counsel. How do you shake a dreamer loose from his dream? Will he ever be ready to relinquish it? Especially when it cannot be refuted that somewhere there may well be a shabby barely livable version of the dream in actuality? It comes chillingly close to being an obsession with him and I fear that continued failure will aggravate rather than bring about resignation."

"But his resources are not unlimited," she observed, "and I don't think he's so stupid as to play himself permanently into Nowhere."

"I wish I could be confident of that." Copffe fidgeted worriedly. "He appears reasonable enough up to a point, but there is a risk in taking repeated doses of hibernol at such short intervals. We're awake for such negligible time periods and the cumulative effect of repeated hibernation could be disastrous. His scan-and-depart technique might stretch his stores to an indefinite degree. But the saving won't be helpful if we all go into coma."

"He is limited by his quantity of hibernol and by his supplies—but most importantly by his power reserves," Melda said. "He can't endlessly jump from star to star. He'll be forced to run back to Old Sol before long. That is—" she grimaced—"in about eight years or so real time, according to Doil."

"Great heavens." Copffe pinched his cheek-bones in dismay. "He can't do this. No, really, Jonny, it's too much. He has no right, none whatsoever. This is purely his own idea and goes completely against every modern concept of debate and discussion. He just won't listen."

The wall-speaker hissed and blatted: "Attention please. Attention please. Departure in thirty minutes. Departure in thirty minutes."

Copffe cursed. "This is madness. Surely we can spend more time on the fifth? I've never seen such a strong line of potassium. Damn it—he's rushing us from cake to cake and we have to gobble what cherries we can in passing. Jonny, I don't care what he does—by fair means or foul we're going to spend

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longer at the next one. It's ludicrous to have months of sleep, only to be rushed off our feet to exhaustion trying to get everything in the twenty or so hours he's giving us—"

Sun #37.

"There is an unreality occasioned by the drugged unconsciousness that is a serious threat to mental balance," Copffe declared loudly. "No one ever before has been subjected to such rapid repetition of metabolic suspension. I'm just tired, Captain—tired! What is it—six years of 'rest' we've had? But we've had very little real sleep."

Copffe did look haggard. The others present also bore marks that could have stemmed from tension and fatigue.

"I close my sack and my mind is turbulent," Copffe went on. "When I come to again my mind is still turbulent. All that streams through my brain is the memory of the two or three hundred hours we have actually experienced. The craft seems the same but the system has changed. Happening once, this is something a man can orient to. But hurry, hurry, hurry, five successive changes under the forced demand of extraordinary conditions—no, Captain, in no way can you maintain such a pace. Such broken continuity is an invitation to trauma."

Lemac eyed him.

"Yes."

He glanced again at the preliminary report from Copffe's astrolab. Nothing. Fourth planet out, three moons, retrograde spin, 1.1 G, and promising—obscuring clouds—ammonia. Imagine that! Hell, hell and hell. Ammonia again. Why, why?

"You're right. We have been pushing too hard. I had my reasons. Two or three months of idling through a system—" Lemac grinned lopsidedly— "eats into you, too. It's like grow-small juice—you can feel yourself getting tinier and tinier. I thought busy rush might beat it, but—" he held up the report; it shivered—"I've got the shakes."

Copffe looked and felt relieved. "Then we can relax for a while? a month, say?"

"Two weeks," Lemac thoughtfully answered, "should be plenty."

"If we can spend years unconscious, surely we can afford a month or two on our feet? What difference can it make? We'd be well overdue even if we started for home this minute. Doubtless we are already presumed lost and the anguish of our disappearance will have subsided by now to a dull ache. A few hundred hours here or there, Captain, at this juncture what does it matter?"

Lemac ignored the biting tone. "Despite all indications to the contrary, I do have the general

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welfare of those on board to heart." He grinned as though he had a pain. "I've been in spacework for thirty—now getting on to forty—foreshortened years. I'm not yet inured to space. Space scares me sick—did you know that? There's so much of it and it seems to get more all the time. The only way to shrink it is with people." At once he looked weighted. "It's an inverted claustrophobia that makes a man want to run back to Earth, the only door he has. We need people. Out here we need people."

And for a moment Copffe glimpsed the despairing and desperate sincerity of the man.

YANINE DOIL was the vessel's Resources Officer. She was concerned for the depression that mantled Lemac.

"You made a mistake, agreeing to spell so long here, Jass. You had to pick just about the worst set of orbiters we've ever come across."

"It doesn't matter," Lemac said. "Copffe was right—we need to get our breath back. Poor throbnob. I've really put the pressure on him. He just can't resist trying to cram in as much work as he can."

"He certainly gets absorbed in his subject. The surface of the third is half molten—did you know that? Very uninviting. But he seems to find it fascinating."

"Uhuh. We're each stuck with our own personal curse. His is curiosity. I bet he's been pulling things to pieces ever since he swallowed the ballbearings from his rattle."

Yanine appreciated Lemac's effort to be cheerful.

"I feel sorry for him," she said. "But then I always do feel sorry for scientists. They dissect and analyze the parts so much that they seem to lose the sense and meaning of the whole. And the worst crime you can commit is to deprive them of their subject matter."

"Yes. He'll have my blood when we get home again." Very soberly he said, "Yan, I am filled with foreboding. We have but three more calls, right? Before we shall be forced to return? Three. It seems very few left. I was willing to delay here partly to put off what I am coming very much to fear. Five we have visited, thirty-one that others have visited." He covered his eyes with his hand. "Maybe Rayner was lucky. Maybe Poisthed—the next mission—is out. Maybe others have been sent. I sometimes wonder. I know what must be so. But the combinations of unfavorable elements seem limitless and it's hard to keep faith. And at times I can't help thinking what a damn great fool I am."

"We need fools, Jass," she said softly. "Big bold bad idiots to

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buck the odds and take matters into their own hands. Come, one way or another we'll succeed. If nothing else you'll become famous as the first man to take eight suns in a row—and surely, Mr. Christian, that will be an inspiration to the future?"

"HAVING at last been given some time to think, it is my conclusion that we must display what philosophical acceptance that we can muster." Copffe addressed his aides, Melda Jonson and Dennis Shalpin. "A definite limit has been set upon the number of further calls we are to make and, barring accidents, we have the captain's positive assurance that we shall return home. As you know, Captain Lemac puzzles me. He appears to be genuinely indifferent toward the consequences to himself of his actions, seems fully aware that his motivations are akin to a gambler's hope in slim chance—and he blithely concedes that his high-handed impositions are an unpardonable infringement of our rights. Yet in contrast to this he quite evidently is an intelligent man and is not sensible to our feelings. It is my opinion that he will keep his word. Between now and when we get home we'll just have to make the best of things."

"And what will be the approximate E.T. when we get back?"

"The total elapsed time will be around twelve years. I'm sorry, Dennis. I have advised him of your matrimonial intentions. I'm afraid he was not greatly moved."

Shalpin shrugged. "Oh, we're too late already. It doesn't matter." Disgusted, he tossed an invisible ball. "Be philosophical, you said. She has probably married someone else by now. Hah! She'll be thirty by the time I get back. It doesn't matter."

For him this was quite a speech and demonstration.

"What if he does find a world?" Melda said. "Will he land on it? Isn't there a chance that he won't want to leave?"

"What? Settle, you mean? My goodness, no."

"I just thought," she mused, "he wouldn't have to go back then and face the brass section."

"Ah. That is a thought. For us to become four new Adams with two Eves, you think? That's if the place is not occupied already with Amazons and he-men, eh? No, I think not. On the faint chance that we should ever encounter such a spot, the fulfillment of his ambition would be to carry the message back to Earth. The event would be a vindication of his actions I suppose, wouldn't it? Hoo, no," he shook his head, "as I see it, either way his incentive will be to return."

Sun #38.

Lemac studied the close-ups

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that Radsdasti had sent in from Outside. Radsdasti himself stood at his elbow, still suited up. "You're sure you could find no clues from the deflector?"

"Not a thing," Radsdasti said. "Checked out in here okay?"

"Yes." Lemac scratched his chin. "It certainly looks like a graze from a frontal strike, the way it starts at nothing and cuts deeper and deeper till it rips out the port tail housing. But there's the nacelle bulge here—how did it get by that?" He cogitated. "It could be a hit from behind, except that the tear says it isn't and at our speed—On the other hand, if the deflector was malfunctioning we'd be like a girls' college by now." He quizzed Radsdasti. "What does that leave us?"

"I hate to think—it gives me the shudders," Radsdasti said seriously. "It had to be something coming in at an acute angle to dodge the deflector. Which means near broadside. Which means it was traveling just a shade slower than us. Which means its nose reached us, touched us, gouged a chunk out of us in a fraction of a nanna. Hellish fast. It's not natural. I sweat just to think of a difference of one k.p.h."

"Your diagnosis might be wrong. Whatever, I think it's a freak. We'll go through everything again. Tail section didn't look so bad—did you see anything I didn't?"

"No. Luckily just the casing. Be okay as long as we stay clear of atmosphere."

"You don't tell me? Okay, get the patch kit and get out there again. We'll take it from the top and microscan the skin all ways around from the first sizzle mark."

"Captain, wouldn't it be advisable to go home for repairs?" Copffe asked. "While you are able in a general way to satisfy yourself as to the craft's condition, shock waves from such a blow could have caused structural flex and material alteration in concealed areas of the fabric. Already this craft has undergone more wear and tear than any other of its kind. The brevity of our experience we know is an illusion. This vessel has been working hard for a number of years."

"Yes. Well you know we go over everything from A to zeep and back, beginning and end and halfway through the flight for turnover. So far nothing drastic enough has arisen to warrant return for major overhaul. This nick we've had is hair-curling but not particularly disabling. I don't think that our disintegration is imminent but if the ship falls apart I'll let you know."

"Thank you," Copffe rasped.

"Welcome."

Next time, Copffe thought irritably, he'd make sure to get a more docile and respectful cap-

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tain. But perhaps not. Out There the utmost competence and integrity were required—and these attributes accorded ill with submissiveness. No, they made for a breed of obstinate, intractable, assertive men pig-headed enough to chase a fanciful belief to the extent of hijacking their craft from its designed pursuit.

Damn! It was annoying.

"WHAT'S the use, Yan, what's the use?" Lemac despaired aloud. "Look at it. Close on sixty planets we've accounted for altogether and over ninety per cent have been ruled out. We're left with a small handful of potential possibles—but what are our chances, huh? Really, what are our chances? Look at them. Two overweight giants monopolizing the entire bracket."

"The bigger the sun, the bigger its planets," she quoted. She pulled a face. "It seems to hold true, doesn't it?"

Radsdasti said, "This will take the last of our reserve stricon callers, Jass, remember? I was thinking, instead of trying to mock up a couple more for the next two. Why don't we put out the rescue bleeters? They're not likely to be much good to us now, are they? And three linked with modified signal—they'd serve just as well."

Lemac thought it over. "True," he assented. "To think of ever being rescued out here is laughable. The bleeters are just a psychological sop—sure go ahead and use them." He sounded a wee testy. "You think we'll need two more, huh? It's just a case of making two more calls and going home now, itsn't it? You don't think we'll find anything, do you?"

"We hope so, Jass," Yanine said. "Nobody knows. The next one could—"

"Yes, but you don't believe it, do you? Not any more."

"No, Jass, it's not like that. Logically there must be other worlds resembling ours—but with so many stars—"

"Yes. The odds don't improve, do they? You've come to anticipate defeat."

"Jass—"

"No. I believe in fairies, okay? I think it's important that somebody does. Setback after setback takes the heart out of people. It takes the heart out of me. I begin to feel like the pretentious high priest of a nut cult."

Oh, no, Jass," Yanine laughed. "You're not that. Eventually we'll strike lucky, you'll see."

"Next time? It's always next time. But what about a show of confidence, huh? Make up just one marker. Our next call just has to have what we're looking for, right? Let's at least outwardly show some measure of faith in

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our convictions. If we are fooling ourselves, let's at least do it with the crazy enthusiasm that it warrants. This creeping sense of futility scrogs me. If you honestly think there is no point in probing further, then we might as well pack up and go home now."

"One of the next two," Radsdasti said. "We've got to go on now. If we don't, later on for sure someone else will and there it'll be. And wouldn't we ever kick ourselves all over the place!"

Lemac rustled up a smile. "All right, so be it." A reaffirmation of absolute solidarity. The mutineers, despite grave premonitions, courageously electing to implement their original plan. Play it out; the last throw could be the winner. If the neck was stuck out far enough, the chopper could miss the feet. "Get on to Copffe and make his day—tell him it's twenty hours long and he's only got five left."

"CAPTAIN, this racing is so unnecessary," Copffe complained. "Very well, you wish to visit as many as possible, but that is no reason to curtail stopovers to such ridiculously short periods. The scientific implications held by the formations of these systems may have little significance to you, but are of considerable interest to us." Copffe was plaintive and irascible by turns. "We want more time, and we must have more time. It is not as if haste alone will bring you reward—if what you seek is there, then it will have been there for some while, and it won't gallop away just because you're coming."

Lemac tried to think up a counter to Copfee's argument, but suddenly felt weak. Go, Lemac wanted to go.

"You have let this thing get too strong a grip on you, Captain," Copfee charged, "And you know it. You're not walking, or even steadily jogging—you're running. Our nerves are frayed, Captain, and I suspect and know that you are under greater strain than you pretend. In your own interests halt, please, rest, and let us have some leisure to at least catch up on our backlog and improve on our rudimentary observations here."

A scientist was not horrified by a huge black people-eating spider. No. A scientist counted its teeth and noted their length, measured the density per square centimenter of the hair under its chin, was intrigued by the mechanism of the joints in its claws. And a scientist was unintimidated in the spider's stomach, could delight in analyzing its digestive juices, could find purpose in calculating its daily intake of calories, could marvel at the quality of the enzymes dissolving his legs. Copffee did not un-

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derstand—but Lemac had to understand Copffe.

"Okay, Mr. Copffe. We'll hang out here for another two weeks," Lemac finally consented. "No maneuvering. We'll sit in the great fat belly and—rest."

Having won the concession, Copffe did not particularly heed the strangeness of Lemac's remark.

REST. Too much time for thinking. Two weeks was ample for Lemac to convince himself that he was a triplicated over and over again fathead. What hope? And Outside. How could so much emptiness press so physically to make him labor?

Over at last. Tempted to go home. Tempted, honestly tempted. Foolishness. Welcome home, fool. Who would care?

General Wolfe took Quebec by sneaking in over the Heights of Abraham. Success equates with brilliance. Had Wolfe failed he would have been castigated for his folly in attempting to take troops over such known impossible terrain. Crass imbecile. And take Benedict Arnold. No, you take Bendict Arnold. Traitor. But had his scheme succeeded, what? The nation's finest patriot. Success made all the difference.

Thirty-eight suns. Now on to thirty-nine—Lemac's seventh. The seventh sun of a second son. No, it would be his ninth. But seventh this trip. Seventh! It was mad. Three months. It seemed like a good idea at the time. But they hadn't even come close. Eight suns. He would be proclaimed an adventurer. He would go down in history. Wild renegade? Hero? Funny how adventures did not seem very adventurous when a man was having them. This exploit was driven by fear. The guts crawled and there was a growing urge to panic, to go faster, to look, to go on and on. It had to be there, it had to.

Eight suns? What would be the good of that? Praise be, return from the dead—with knowledge of the dead? An accomplishment to rejoice, a return trailing the necropolis of the stars? Perhaps humans would overcome obstacles in some other manner—the hard, hard way. Somehow people would have to get Out There.

Lemac shivered. Blast Copffe.

Sun #39.

"Captain, there is one major flaw in your self-propelled quest for a comparatively Earth-type planet." Copffe stuck finger and thumb into his eyes, rubbed, blinked, took his time. "You have to rely upon us to inform you if we do indeed note a body with such similarities. Under the circumstances, I can see no reason why we should be so helpful. We can supply you with what information we wish and you will be none the wiser. Correct?"

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Lemac squinted. "You have discovered something?"

"I didn't say that. But we could have—on the last call but one—or three—or four. You are forced to trust us, aren't you? And so, from the beginning it has been in our power to foredoom your hopes and ambitions."

"Such withholding would gladden your heart?" Lemac's sharp scrutiny met cool response. "You're not that kind of man. God, such meanness would be unforgivable."

"Really? There are some who might well regard your behavior as unforgivable. Yes, captain, I can think of many reasons for denying you the pleasure, not least of which might be that upon our return I would know and you would not. And doubtless some arrangement could be devised to insure that I and my assistants should receive all of what credit might accrue. Why should we help you, Captain? What have you done for us?"

Lemac inclined his head. "Why tell me this?" He nodded. "Okay. Mr. Copffe, I am not after glory. If the world is there, you couldn't resist finding it—and if you want to keep it to yourself till you can use it to make you famous, that's all right by me. I don't have to see it, or even know where you found it. It would be sufficient for me just to know that its presence had come at last to human knowledge." He added the shrewd question, "And has it?"

Copffe frowned, but he was no poker player and he could not maintain his bluff.

"Yes," he confessed. He fought hard to make his smile grudging but it came on full beam. "Come down and see for yourself. The fourth one, Captain—" Helplessly he waved his hand. He gave up and let himself go. "It's beautiful, absolutely beautiful. Smaller than Earth, not much, though, gravity pointing but with a seeming more equal land-sea ratio. Oxygen could be as high as twenty-five per cent, though surface pressure might not be much above point eight kilograms. Beautifully positioned, beautiful. It's an incredible sight from here, Captain—veiled, blue and green. It is absolutely astonishing. You must see it—come, come."

Once he had released it, Copffe could not stop his tongue from running away. He urged Lemac from his table.

"These views give only very rough estimates, of course. We'll have to move in a lot closer to refine our resolutions but you won't object to that, eh? Marvelous. Fantastic. It has a moon, too. It really does, Captain—wait till you see. No emissions that might be construed as being intelligence-inspired—but this, of course, proves nothing."

Copffe led the way. "There's

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life there without doubt, rich life. Astonishing. Scarcely any inclination at all. Provisionally have it down for a twenty-six-hour cycle but that's loose, of course. A splendid sight. Curiously, it lies ten degrees from the general plane but its ellipse is not too great, I should say. A few days will soon determine that with accuracy. Surface temperatures—"

Lemac followed him as he babbled on. Lemac was dryly amused by the scientist's unscientific emotion—it seemed to prove something. For himself, Lemac was surprised most by his own overcoming feeling of detachment. They had found a world. He knew a sense of anticlimax. They had found a world. Of course they had. He'd known they would. It had been waiting there. It had only had to be found, that was all. So simple, really.

—JACK WODHAMS

★★★ FORECAST ★★★

A MARTIAN. . .

. . .someone once said, is anything or anyone you want him to be. Next month's GALAXY cover, coinciding with the Mariner VI and VII flybys scheduled for July 30th and August 5th respectively, will be a collector's item—possibly man's last free-will expression of the nature of his possible neighbors on the Fourth Planet—brilliantly executed by DR. DONALD H. MENZEL. His credentials? Paine Professor of Practical Astronomy and Professor of Astrophysics, Harvard University; former Director, Harvard College Observatory; Research Scientist, Smithsonian Astrophysical Observatory.

Dr. Menzel's Martians are true works of art by an eminent space scientist—a rare wedding of talent and inspiration. He introduces them individually in the pages of GALAXY. A happening you won't want to miss. Another is—

HUMANS, GO HOME!

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. . .forcefully timely novelette of man's past as he makes a gift of it to the inhabitants of a strange planet—and of his future, posing the question: Can he survive his own immortality? Who but van Vogt could ask it? And where—but in GALAXY?

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THE MINUS EFFECT

by A. BERTRAM CHANDLER

The human equation as worked out by the Department of Socio-Economic Science required a sinister correction by The Subtracter.

LIEUTENANT JOHN GRIMES, of the Interstellar Federation's Survey Service, was proud of his first command. She was only a little ship, a Serpent Class courier, lightly armed and manned by a minimal crew. In addition to Grimes there were two watch-keeping officers, both ensigns, an engineering officer—another one-ringer. Also two communications officers, lieutenants both, one in charge of the vessel's electronic equipment, the other a psionic radio officer, this being in the days before the development of the Carlotti Communications System. There were no petty of-

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ficers and no ratings. There were, however, the various occasional passengers—one function of the couriers was to get V.I.P.s from Point A to Point B in a hurry, as and when required.

"You will proceed," Commodore Damien had told him, "from Lindisfarne Base to Doncaster at maximum speed—but considering at all times the safety of your vessel."

"And also the comfort of my passenger, sir?" asked Grimes.

"That need not concern you, Lieutenant." Damien grinned, his teeth yellow in his skull-like face. "Mr. Alberto is tough. Tougher, I would say, than the average spaceman."

Grimes' prominent ears flushed. The commodore had managed to imply that Grimes was below average. "Very well, sir," he said. "I'll pile on the Gs and the lyps."

"Just so you arrive in one piece," growled Damien. "That's all our lords and masters ask of you. Or, to be more exact, just so Mr. Alberto arrives in one piece and functioning." He lifted a heavily sealed envelope off his desk, handed it to Grimes. "Your orders, to be opened when you are on trajectory. But I've already told you most of it." He grinned again. "On your bicycle, spaceman."

Grimes rose to his feet, came stiffly to attention, saluted, turned smartly about and marched out of the commodore's office. This was his first sealed-orders assignment.

Clear of the office, Grimes continued his march, striding in time to martial music audible only to himself. Then he paused, looking toward the docking area of the spaceport. There was his ship, already positioned on the pad, dwarfed by a huge Constellation Class cruiser to one side of her, a Planet Class transport to the other. But she stood there bravely enough on the apron, a metal spire so slender as to appear taller than she actually was, gleaming brightly in the almost level rays of the westering sun. And she was his. It did not matter that officers serving in larger vessels referred to the couriers as flying darning needles.

So he strode briskly to the ramp extruded from the after airlock of his flying darning needle, his stocky body erect and dignified in his smart—but not too ostentaciously smart—uniform. Ensign Beadle, his first lieutenant, was there to greet him. The young man threw him a smart salute. Grimes returned it with just the right degree of sloppiness.

"All secure for lift-off, Captain."

"Thank you. Is the passenger aboard?"

"Yes, sir. And his baggage."

Grimes fought down the rising temptation to ask what he was

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like. Only when one is really senior can one unbend with one's juniors.

"Very well, Number One." He looked at his watch. "My lift-off is scheduled for nineteen-thirty hours. It is now nineteen-seventeen. I shall go straight to control, Mr. Beadle."

"Mr. von Tannenbaum and Mr. Slovotny are waiting for you there, sir, and Mr. McCloud is standing by in the engine room."

"Good. And Mr. Deane is tucked safely away with his poodle's brain in aspic?"

"He is, sir."

"Good. Then give Mr. Alberto my compliments and ask him if he would like to join us in control during lift-off."

Grimes negotiated the ladder in the axial shaft rapidly, without losing breath. The Serpent Class couriers were too small to run to an elevator. He did not make a stop at his own quarters. A courier captain was supposed to be able to proceed anywhere in the Galaxy, known or unknown, at a second's notice. In the control room he found Ensign Tannenbaum—Blond Beast—and Lieutenant Slovotny—Sparks—at their stations. He buckled himself into his own chair. He had just finished doing so when the plump, lugubrious Beadle pulled himself up through the hatch. He addressed Grimes.

"I asked Mr. Alberto if he'd like to come up to the office, Captain."

Grimes looked pointedly at the clock on the bulkhead.

"And is he coming up?"

"No, Captain. He said—"

"Out with it, man. It's time we were getting up them stairs."

"He said, 'You people look after your job and I'll look after mine.' "

Grimes shrugged. As a courier captain he had learned to take V.I.P.s as they came. Some—a very few of them—he would have preferred to have left.

He asked, "Are Mr. Alberto and Mr. Deane secured for lift-off?"

"Indeed they are, Captain, although Spooky's not happy about the shockproof mount he has for his amplifier."

"He never is really satisfied. Clearance, Sparks."

"Clearance, Captain." The wiry little radio officer spoke quietly into his microphone. "Mission 7DKY to Tower. Come in. Request clearance."

"Tower to Mission 7DKY. You have clearance. Bon voyage."

"Thank him," said Grimes. He glanced rapidly around the little control room. All officers were strapped in their acceleration chairs. All tell-tale lights were green. "All systems go," he muttered.

He pushed the right buttons and went.

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IT WAS a normal enough courier lift-off. The ship's inertial drive easily developed maximum thrust within microseconds of being started. Once his radar told him that the ship was the minimum safe altitude above the port Grimes cut in his auxiliary rockets. The craft was built to take stresses that, in larger vessels, would have been dangerous. Her personnel prided themselves on their toughness.

As did the one outsider, the passenger. Grimes would have grinned had it not been for the acceleration's flattening out of his features. Commodore Damien has said that Mr. Alberto was tough—so Mr. Alberto would just have to take the Gs and like it.

The ship drove up through the last, high wisps of cirrus into the darkling, purple sky, toward the sharply bright, unwinking stars. She plunged outward through the last tenuous shreds of atmosphere and the needles of instruments flickered briefly as she passed through the Van Allens. She was out and clear now—out and clear—and Grimes cut both inertial and reaction drives, used his gyroscopes to swing the sharp prow of the ship on to the target star, the Doncaster sun.

He brought that far distant speck of luminosity into the exact center of his spiderweb sights. Von Tannebaum, who was navigator, gave him the corrections necessitated by galactic drift—it was essential to aim the vessel at where the star was now, not where it was some seventy-three years ago.

The inertial drive was restarted and the ever-precessing rotors of the Mannschen drive were then set in motion. There was the usual brief queasiness induced by the temporal precession field, the usual visual shock as colors sagged down the spectrum, as the hard, bright stars outside the viewports became hazy, iridescent nebulosities. Grimes remained in his chair for a few minutes, satisfying himself that all was as it should be. Slowly and carefully he filled and lit his foul pipe, ignoring a dirty look from Beadle who, in the absence of a biochemist, was responsible for the ship's air-regeneration system.

Then, speaking through a swirl of acrid smoke, he ordered, "Set deep-space watches, Number One. And tell Mr. Deane to report to Lindisfarne Base that we are on trajectory for Doncaster."

"E.T.A. Doncaster, Captain?" asked Beadle.

Grimes pulled the sealed envelope from the pouch at the side of his chair, looked at it.

For eyes only. Destroy by fire after reading. . .

He said, "I'll let you know after I've skimmed through this bumf."

After all, even in a small ship informality can be allowed to go

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only so far. He unbuckled himself, rose from his seat, went down to his quarters to read the orders.

THERE was little in them that he had not already been told by Commodore Damien. Insofar as the E.T.A. was concerned, this was left largely to his own discretion, although it was stressed that the courier was to arrive at Doncaster not later than April twenty-third, Local Date. And how did the Doncastrian calendar tally with that used on Lindisfarne? Grimes, knowing that Blond Beast was now on watch, called control and threw the question onto von Tannenbaum's place, knowing that within a very short time he would have an answer accurate to at least fourteen places of decimals—and that as soon as he, Grimes, made a decision regarding the time of arrival the necessary adjustment of velocity would be put in hand without delay.

Von Tannenbaum called back.

"April twenty-third on Doncaster coincides with November eighth on Lindisfarne. I can give you the exact correlation, Captain."

"Don't bother, pilot. My orders allow me quite a bit of leeway. Suppose we get Mr. Alberto to his destination just three days before the deadline—give him time to settle in before he commences his duties, whatever they are, in the high commissioner's office. As far as I can gather, we're supposed to stay on Doncaster until directed elsewhere—so an extra three days in port will do us no harm."

"It's a pleasant planet, I've heard, Captain." A pause ensued and Grimes could imagine the burly, flaxen-headed young man running problems through the control-room computer, checking the results with his own slipstick. "This calls for a reduction of speed. Shall I do it by cutting down the temporal precession rate or by reducing acceleration?"

"Two Gs is a little heavy," admitted Grimes.

"Very well, Captain. Reduce to one-point-two-seven?"

"That will balance?"

"It will balance."

"Then make it so."

Almost immediately the irregular throbbing of the inertial drive slowed. Grimes felt his weight pressing less heavily into the padding of his chair. He did not need to glance at the accelerometer mounted among the other flight instruments on the bulkhead of his cabin. Von Tannenbaum was a good man, a good officer, a good navigator.

A sharp rap came on the door.

"Come in," called Grimes, swiveling his seat so that he faced the visitor. This, he realized, would be his passenger, anticipating the captain's invitation to an introductory drink and talk.

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He was not a big man, this Mr. Alberto, and at first he gave an impression of plumpness, of softness. But it was obvious from the way that he moved that his bulk was solid muscle, not fat. He was clad in the dark gray that was almost a civil service uniform—and even Grimes, who knew little of the niceties of civilian tailoring, could see that both the material and the cut of Alberto's suit were superb. He had a broad but ordinary face. His hair was black and glossy, his eyes black and rather dull. His expression was petulant.

He demanded rather than asked, "Why have we slowed down?"

Grimes bit back a sharp retort. After all, he was only a junior officer in spite of his command. His passenger probably piled on far more Gs than a mere lieutenant.

"I have adjusted to a comfortable actual velocity, Mr. Alberto, so as to arrive three days, local, before the deadline. I trust that this suits your plans."

"Three days—" Angelo smiled and his face was transformed abruptly from that of a sulky baby to that of a contented child. It was, Grimes realized, no more than a deliberate turning on of charm—but, he admitted to himself, it was effective. "Three days will give me ample time to settle down, Captain, before I start work. And I know, as well as you do, that overly heavy acceleration can be tiring."

"Won't you sit down, Mr. Alberto? A drink, perhaps?"

"Thank you, Captain. A dry sherry, if I may."

Grimes grinned apologetically. "I'm afraid that these Couriers haven't much of a cellar. I can offer you gin, scotch or brandy."

"A gin and lime, then."

The lieutenant busied himself at his little bar, mixed the drinks, gave Alberto his glass, raised his. "Here's to crime"

Alberto smiled again. "Why do you toast crime, Captain?"

"A current custom in the Service. No so long ago it was, 'Down the hatch' Before that it was, 'Here's mud in yer eye.' We've been dipping into history for our tradition."

"I see." Alberto sipped appreciatively. "Good gin, this."

"Not bad. We get it from Van Diemen's Planet." He waited through a brief silence. Then: "Will you be long on Doncaster, Mr. Alberto? I rather gained the impression that we're supposed to wait there until you've finished your—business."

"It shouldn't take long."

"Diplomatic?"

"You could call it that."

Again the smile. Why did the white teeth look so carnivorous?

"Another drink?"

"Why, yes. I like to relax when I can."

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"Yours is demanding work?"

"And so is yours, Captain."

The brassy music of a bugle drifted into the cabin through the intercom.

"Mess call," said Grimes.

"You do things in style, Captain."

Grimes shrugged. "We have a tape for all the calls in general use. As for the tucker—" He shrugged again. "We don't run to a cook in a ship of this class. Sparks—Mr. Slovotny—prepares the meals in space. As a chef he's a good radio officer."

"Do you think he'd mind if I took over?" asked Alberto. "After all, I'm the only idler aboard this vessel."

"We'll think about it," said Grimes.

"YOU KNOW what I think, Captain?" Beadle asked.

"I'm not a telepath, Number One," said Grimes. "Tell me."

The two men were sitting at ease in the Courier's control room. Each of them was conscious of a certain tightness in the waistband of his uniform shorts. Grimes was suppressing a tendency to burp gently. Alberto, once he had been given a free hand in the galley, had speedily changed shipboard eating from a necessity to a real pleasure. He insisted that somebody else always do the washing up, but this was a small price to pay. This evening, for example, the officers had eaten *saltimbocca,* accompanied by a rehydrated rough red that the amateur chef had contrived, somehow, to make taste like real wine. Nonetheless, he had humbly apologized for the meal.

I should have used prosciutto, not any old ham. And fresh sage leaves, not dried sage. . .

"I think," said Beadle, "that the standard of the high commissioner's entertaining has been lousy. Alberto must be a *cordon bleu* chef, sent out to Doncaster to play merry hell in the kitchen."

"Could be," said Grimes. He belched gently. "Could be. But I can't see our lords and masters laying on a ship, even a lowly Serpent Class Courier, for a cook, no matter how talented. As a matter of fact, Alberto told me that he was a mathematician. . ."

"A real mathematician?" Beadle was scornfully incredulous. "You know how the Blond Beast loves to show off his toys to anybody who'll evince the slightest interest. Well, Alberto was up in the control room for a while during his watch—you'll recall that he said he'd fix the coffee maker. Our Mr. von Tannenbaum paraded his pets and made them do their tricks. He was in a very disgruntled mood when he handed over to me when I came on. How did he put it? 'I don't expect a very high level of intelligence in planetlubbers but that Alberto is

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in a class by himself. I doubt he could add two and two and get four twice running.' "

"Did he fix the machinetta?"

"As a matter of fact, yes. It makes beautiful coffee now."

"Then what are you complaining about?"

"I'm not complaining, Captain. I'm just curious."

And so am I. . .

As the commanding officer of the ship Grimes was in a position to satisfy his curiosity. After Mr. Beadle had gone about his multifarious duties Grimes called Mr. Deane on the telephone.

"Are you busy, Spooky?"

"I'm always busy, Captain."

The abrupt reply was authentic enough. A Psionic Radio Officer was on duty all the time, sleeping and waking, his mind open to the transmitted thoughts of other telepaths throughout the Galaxy. Some were powerful transmitters, others were not. Some made use, as Deane always did, of organic amplifiers—others made do with the unaided power of their own minds. And there was selection, of course. Just as a wireless operator on Earth's seas in the early days of radio could pick out his own ship's call sign from the babble and babel of Morse, so the trained telepath could listen selectively. At short ranges he could, too, receive the thoughts of the nontelepaths who were about him—but unless somehow the circumstances were exceptional he was supposed to maintain the utmost secrecy regarding them.

"Can you spare me a few minutes, Spooky? After all, you can maintain your listening watch anywhere in the ship."

"Oh, all right, Captain. I'll be up. I already know what you're going to ask me."

You would. . .

A minute or so later Mr. Deane drifted into Grimes's day cabin. Deane's nickname was apt. He was tall, fragile, so albinoid as to appear almost translucent. His white face was a featureless blob.

"Take a pew, Spooky. A drink?"

"Mother's ruin, Captain."

Grimes poured gin for both of them. His glass held ice and a generous sprinkling of bitters. Mr. Deane preferred his gin straight, as colorless as he was himself.

The Psionic Radio Officer genteelly sipped.

Then: "I'm afraid that I can't oblige you, Captain."

"Why not, Spooky?"

"You know very well that we graduates of the Rhine Institute have to swear to respect privacy."

"There's no privacy aboard a ship, Spooky. There cannot be."

"There can be, Captain. There must be."

"Not when the safety of the ship is involved."

The argument was familiar.

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Grimes knew that after the third gin the telepath would weaken.

"We get odd passengers aboard this ship, Spooky. Surely you remember that Waldegren diplomat who had the crazy scheme of seizing her and turning her over to his own navy."

"I remember, Captain."

Deane extended his glass which, suprisingly, was empty. Grimes wondered, as he always did, if its contents had been teleported directly into the officer's stomach. But he poured a refill.

"Mr. Alberto's another odd passenger," he went on.

"But a Federation citizen," Deane told him.

"How do we know? He could be a double agent. Do you know?"

"I don't." After only two gins Spooky was ready to spill the beans. This was unusual. "I don't know anything."

"What do you mean?"

"Usually, Captain, we have to shut our minds to the trivial, boring thoughts of you psionic morons. No offense intended—but that's the way we think of you. We get sick of visualizations of the girls you met in the last port and the girls you hope to meet in the next port." He screwed his face up in disgust, made it evident that he did, after all, possess features. "Bums, bellies and breasts. The Blond Beast's a tit man and you have a thing about legs."

Grimes's ears reddened but he said nothing.

"And the professional wishful thinking is even more nauseating. *When do I get my half ring? When do I get my brass hat? When shall I make Admiral?*"

"Ambition."

"Ambition, hell. Of late I've been getting: *I wonder what Alberto's putting on for breakfast? For lunch? For dinner?*"

"What is he putting on for dinner?" asked Grimes. "I've been rather wondering if our tissue culture chook could be used for Chicken Cacciatore."

"I don't know."

"No, you're not a chef. As well we know—after the last time that you volunteered for galley duties."

"I mean, I don't know what the menus will be." It was Deane's turn to blush. "As a matter of fact, Captain, I have been trying to get previews. I have to watch my diet."

Grimes tried not to think uncharitable thoughts. Like many painfully thin people Deane enjoyed a voracious appetite.

He said, "You've been merely trying to eavesdrop? No luck?"

"Yes. But there are non-telepaths, you know, and Alberto's one of them. A true non-telepath. Most people transmit, although they cannot receive. Alberto doesn't transmit."

"A useful qualification for a diplomat," said Grimes. "If he

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is a diplomat. But could he be using some sort of psionic jammer?"

"No. I'd know if he were."

Grimes couldn't ignore that suggestively held empty glass any longer. He supposed that Deane had earned his third gin.

THE COURIER broke through into normal Space Time north of the plane of Doncaster's ecliptic. In those days, before the Carlotti Beacons made FTL position fixing simple, navigation was an art rather than a science—and von Tannenbaum was an artist. The little ship dropped into a transpolar orbit about the planet and then, as soon as permission to land had been granted by Aerospace Control, descended to Port Duncannon. It was, Grimes told himself smugly, one of his better landings. And so it should have been—conditions were little short of ideal. There was no cloud, no wind, not even any clear air turbulence at any level. The ship's instruments were working perfectly, and the inertial drive was responding to the controls with no time lag whatsoever. It was one of those occasions on which the captain feels that his ship is no more—and no less—than a beautifully functioning extension of his own body. Finally, it was morning, local time, with the sun just lifting over the verdant, rolling hills to the eastward, bringing out all the color of the sprawling city a few miles from the spaceport, making it look from the air like a huge handful of gems spilled carelessly on a green carpet.

Grimes set the vessel down in the exact center of the triangle marked by the blinkers. He touched so gently that, until he cut the drive, a walnut under the vaned landing gear would not have been crushed.

He said quietly, "Finished with engines."

"Receive boarders, Captain?" asked Beadle.

"Yes, Number One."

Grimes looked out through the viewport to the ground cars that were making their way from the administration block. Port health, immigration, customs—the harbormaster paying his respects to the captain of a visiting Federation warship. And the last vehicle? He took a pair of binoculars from the rack, focused them on the flag fluttering from the bonnet of the car in the rear. It was dark blue, with a pattern of silver stars, the Federation's colors. So the high commissioner himself had come out to see the ship berth. He wished that he and his officers had dressed more formally but it was too late to do anything about it now. He went down to his quarters, was barely able to change the epaulettes of his shirt, for a pair of shining new ones

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before the high commissioner was at his door.

Mr. Beadle ushered in the important official with all the ceremony he could muster at short notice.

"Sir, this is the captain, Lieutenant Grimes. Captain, may I now introduce Sir William Willoughby."

Willoughby extended a hand that, like the rest of him, was plump.

"Welcome aboard, Captain." He laughed. "I hope you don't mind my borrowing an expression."

"Not at all. Will you sit down, Sir William?"

"Thank you, Captain. But only for a couple of minutes. I shall be out of your hair as soon as Mr. Alberto has been cleared. Then I'll whisk him off to the Residence." He paused, regarding Grimes from eyes that, in the surrounding fat, were sharp and bright. "How did you find him, Captain?"

"Mr. Alberto, sir?" What was the man getting at? "He's an excellent chef."

"Glad to hear you say it, Captain. That's why I sent for him."

"So he's a chef, sir?"

Again those sharp little eyes bored into Grimes's skull.

"Of course. What else did you think?"

"Well, as a matter of fact we were yarning one night and he sort of hinted that he was a mathematician. . ."

"Did he?" Then Willoughby chuckled. "He was putting you on. Although any real chef is a mathematician—he must get his recipes right."

"That's one way of looking at it, Sir William."

Beadle was back then, followed by Alberto.

"I must be off, now, Captain," said the passenger, shaking hands. "Thank you for a very pleasant voyage."

"Thank you," Grimes told him, adding, "We shall miss you."

"But you'll enjoy some more of his cooking," the high commissioner said genially. "As officers of the only Federation warship on this world you'll have plenty of invitations—to the Residence as well as elsewhere. Too, if Mr. Alberto manages to impart his skills to my permanent staff—you may shortly be taking him back with you."

"We hope so," Grimes said.

"Good day to you, then. Come on, Mr. Alberto—it's time you started to show my glorified scullions how to boil an egg"

He was gone. Then the harbormaster was at the door. He was invited in, took a seat, accepted coffee.

"Your first visit to Doncaster," he announced rather than asked.

"Yes, Captain Tarran. It seems a very pleasant planet."

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The harbormaster made a non-committal sound.

"Tell me, is the cooking at the Residence as bad as the high commissioner makes out?"

"I wouldn't know, Captain. I'm just a merchant skipper in a shore job. I don't get asked to all the best parties." The sudden white grin in the dark, lean face took the rancor out of the words. "And I thank all the odd gods of the Galaxy for that."

"I concur with your sentiments, Captain Tarran. One never seems to meet any real people at the official bun-struggles. It's all stiff collars, best behavior and being nice to nongs and drongoes whom normally you'd run a mile to avoid."

"Still," said Mr. Beadle, "the high commissioner seems to have the common touch."

"How so?" asked Grimes.

"Well, coming out to the spaceport in person to pick up his chef."

"Cupboard love," Grimes told him. "Cupboard love."

THERE were official parties and there were unofficial ones. Tarran may not have been a member of the planet's snobocracy but he knew people in all walks of life, in all trades and professions, and the gatherings to which, through him, Grimes was invited were far more entertaining affairs than the official functions he was obliged to attend. It was at an informal supper which was given by Professor Tolliver, who held the Chair of Political Science at Duncannon University, that he met Selma Madigan.

With the exception of Tarran and Grimes and his officers all the guests were university people, students as well as instructors. Some were human and some were not. Much to his surprise Grimes found that he was getting along famously with a Shaara princess, especially since he had cordially detested a Shaara queen to whom he had been introduced at a reception in the Mayor's Palace.

And there I was, having to say nice things to a bedraggled, old, oversized bumblebee loaded down with more precious stones than this ship could lift. And with all that tonnage of diamonds she couldn't afford a decent voice box. She sounded like a scratched platter and a worn-out needle on one of these antique record players. . .

This Shreen was beautiful. Hers was an inhuman beauty, of course—that of a glittering, intricate mobile. By chance or design—design, thought Grimes—her voice box produced a pleasant, almost seductive contralto, with faintly buzzing undertones. She was an arthropod but there could be no doubt about the fact that she was an attractive female.

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She was saying, "I find you humans so fascinating, Captain. There is so much similarity to be discovered between yourselves and ourselves—and such great differences. But I have enjoyed my stay on this planet."

"And will you be here much longer, Your Highness?"

"Call me Shreen, Captain," she told him.

"Thank you, Shreen. My name is John. I shall feel honored if you call me that." He laughed. "In any case, my real rank is only lieutenant."

"Very well, Lieutenant John. But to answer your question. I fear that I shall return to my own world as soon as I have gained my degree in socio-econonomics. Our queen mother decided that this will be a useful qualification for a future ruler. The winds of change blow through our hives and we must trim our wings to them."

And very pretty wings, too. . .

But Shreen was impossibly alien and the girl who approached gracefully over the polished floor was indubitably human. She was slender and tall for a woman. Her gleaming auburn hair was piled high in an intricate coronal. Her mouth was too wide for conventional prettiness, the planes of her thin face were too well defined. Her eyes were definitely green. Her smile, as she spoke, made her beautiful.

"Another conquest, Shreen?" she asked.

"I wish it were, Selma," replied the Princess. "I wish that Lieutenant John were an arthropod like myself."

"In that case," grinned Grimes, "I'd be a drone."

"From what I can gather," retorted the human girl, "that's all that spaceship captains are anyhow."

"Have you met Selma?" asked Shreen.

She performed the introductions.

"And are you enjoying the party, Mr. Grimes?" inquired Selma Madigan.

"Yes, Miss Madigan. It's a very pleasant change from the usual official function. But don't tell anybody I said so."

"I'm glad you like us. We try to get away from that ghastly outposts-of-empire atmosphere. Quite a number of our students are like Shreen here, quote aliens unquote."

"On my world you would be the aliens."

"I know, my dear, and I'm sure that Mr. Grimes does, too. But all intelligent beings can make valuable contributions to each other. No one race has a sacred mission to civilize the Galaxy. . ."

"I wish you wouldn't preach, Selma." It was amazing how much expression the princess could get out of her mechanical voice box.

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"If you must, perhaps you can make a convert out of Lieutenant John." Shreen waved a gracefully articulated forelimb and was away, gliding off to join a group composed of two human men, a young Hallichek and a gaudy pseudosaurian from Dekkovar.

Selma Madigan looked directly at Grimes.

"And what do you think of our policy of integration?"

"It has to come, I suppose."

"It has to come," she mimicked. "You brassbound types are all the same. You get along famously with somebody like Shreen, because she's a real, live princess. But the Shaara royalty isn't royalty as we understand it. The queens are females who've reached the egg-laying stage, the princesses are females who are not yet sexually developed. Still—Shreen's a princess. You have far less in common with her, biologically speaking, than you have with Oona—but you gave Oona the brush-off and fawned all over Shreen."

Grimes flushed. "Oona's a rather smelly and scruffy little thing like a Terran chimpanzee. Shreen's—beautiful."

"Oona has a brilliant mind. Her one weakness is that she thinks that Terrans in pretty, gold-braided uniforms are wonderful. You snubbed her. Shreen noticed. I noticed."

"As far as I'm concerned," said Grimes, "Oona can be her imperial highness on whatever world she comes from—but I don't have to like her."

Professor Tolliver, casually clad in a rather grubby toga, smoking a pipe even fouler than Grimes's, joined the discussion.

"Young Grimes has a point."

"I have," agreed Grimes. "As far as I'm concerned, people are people—it doesn't matter a damn if they're humanoid, arachnoid, saurian or purple octopi from the next galaxy but three. If they're our sort of people—I like 'em. If they ain't—I don't."

"Oona's our sort of people," insisted Selma.

"She doesn't smell like it."

The girl laughed. "And how do you think she enjoys the stink of your pipe—and, come to that, Peter's pipe?"

"Perhaps she does enjoy it," suggested Grimes.

"As a matter of fact she does," said Professor Tolliver.

"Men—" muttered Selma Madigan disgustedly.

Tolliver drifted away. Grimes walked with the girl to the table on which stood a huge punchbowl. He ladled out drinks for each of them. He raised his own glass in a toast.

"Here's to integration"

"I wish you really meant that."

"Perhaps I do," Grimes murmured a little doubtfully. "After

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all, we've only one universe and we all have to live in it. It's not so long ago that blacks and whites and yellows were at each other's throats on the home planet—to say nothing of the various subdivisions within each color grouping. Von Tannenbaum—that's him over there, the Blond Beast we call him—is an excellent officer, a first class shipmate and a very good friend. But his ancestors were very unkind to mine, on my mother's side. And mine had quite a long record of being unkind to other people. I could be wrong—but I think that much of Earth's bloody history was no more than xenophobia carried to extremes."

"Quite a speech, John." She sipped her drink. "It's a pity that the regulations of your service forbid you to play any active part in politics."

"Why?"

"You'd make a very good recruit for the new party we're starting. LL."

"LL?"

"The obvious abbreviation. The League of Life. You were talking just now of Terran history. Even when Earth's nations were at war there were organizations with pan-national and pan-racial memberships. The aim of the League of Life is to build up a membership of all intelligent species."

"Quite an undertaking."

"But a necessary one. Doncaster could be said to be either unfortunately situated—or otherwise, according to the viewpoint. Here we are, one Man-colonized planet on the borders of no less than two alien empires. The Hallichek Hegemony, the Shaara Superive. We know that Imperial Earth is already thinking of establishing Fortress Doncaster, coverting this world into the equivalent of a colossal, impregnably armored and fantastically armed dreadnought with its guns trained upon both avian and arthropod. But there are those of us who would sooner live in peace and friendship with our neighbors. That's why Duncannon University has always tried to attract non-Terran students—and that's why the League of Life was brought into being." She smiled. "You could, I suppose, call it enlightened self-interest."

"Enlightened," agreed Grimes.

He liked this girl. She was one of those women whose physical charm is vastly enhanced by enthusiasm. She did far more to him and for him than the sort of female, equally pretty or prettier, whom he usually met.

She said, "I've some literature at home if you'd like to read it."

"I should—Selma."

She took the use of her given name for granted. Was that a good sign, or not?

"That's splendid, John. We

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could pick it up now. The party can get along without us."

"Don't you live on the premises?"

"No. But it's only a short walk from here. I have an apartment in Heathcliff Street."

When Grimes had collected his boat cloak and cap from the cloakroom she was waiting for him. She had wrapped herself in a green academic gown that went well with her hair, matched her eyes. Together they walked out into the misty night. There was just enough chill in the air to make them glad of their outer garments and to make them walk closer together than they would have otherwise. Grimes was conscious of the movements of her body against his.

Political literature is a change from etchings.

But he could not remain cynical for very long. For he had already recognized in her qualities of leadership, had no doubt in his mind that she would achieve high political rank on the world of her birth. Nonetheless, this night things could happen between them and probably would happen between them. He, most certainly, would not attempt to stem the course of nature. Neither of them would be the poorer—both, in fact, would be the richer. Meanwhile it was good to walk with her through the soft darkness, to let one's mind dwell pleasurably on what lay ahead at the end of the walk.

"Here we are, John," she said suddenly.

The door of the apartment house was a hazy, golden-glowing rectangle in the dimness. They met no one in the hallway. An elevator bore them swiftly up. Its door opened on a richly carpeted corridor. There then was another door—one that, Grimes noted, was opened with an old-fashioned metal key. He remembered then that voice-actuated locks were not very common on Doncaster.

The furnishings of her living room were austere but comfortable. Grimes removed his cloak and cap, gave them to her to hang up somewhere. He sat down on a divan, watched her walk to the window that ran all along one wall, press the switch that drew the heavy drapes aside, press another switch that caused the wide panes to sink into their housing.

She said, "The view of the city is good from here—especially on a misty night. And I like it when you can smell the clean tang of fog in the air."

"You're lucky to get a clean fog," said Grimes, Earth-born and Earth-raised.

He rose and went to stand with her. His arm slipped about her waist. She made no attempt to disengage it. Nonetheless, he could still appreciate the view. It

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was superb—like looking down at a star cluster enmeshed in a gaseous nebula.

"Smell that heavenly mist," Selma whispered.

Grimes dutifully inhaled.

Where does that taint of garlic come from? Some source in the room. . .

Grimes could act fast when he had to. He sensed rather than saw that somebody was rushing at him and the girl from behind. He let go of her, pushed her violently to one side. Instinctively he fell into a crouch, felt a heavy body thud painfully into his back. He dropped still lower, his arms and the upper part of his torso hanging down over the windowsill. What followed was the result of luck rather than skill—the assailant slithered over Grimes's back, head down, in an ungraceful dive. Next Grimes was staring down, watching a dark figure fall into the luminous mist with agonizing slowness, twisting and turning as it plunged, screaming. The scream was cut short by a horridly fluid *thud*.

He stood there, trembling uncontrollably. The reek of garlic was still strong in the air. He was violently sick.

"THERE are lessons," said Commodore Damien dryly, "that a junior officer must learn if he wishes to rise in the service. One is that it is unwise to throw a monkey wrench into the machinations of our master."

"How was I to know, sir?" complained Grimes. He flushed. "In any case—I'd do it again"

"I'm sure you would, Mr. Grimes. No man in his right senses submits willingly to defenestration—and no gentleman stands by and does nothing while his companion of the evening is subjected to the same fate. Even so—" he drummed on his desk top with his skeletal fingers—"I propose to put you into the picture. To begin with, the late Mr. Alberto was criminally careless. Apparently he officiated as usual in the high commissioner's kitchen on the night in question. Sir William had, earlier in the day, expressed a wish for one of the more redolent sauces. As a good chef should, Alberto tasted, and tasted, and tasted. He should have deodorized his breath before proceeding to Miss Madigan's apartment. He was not, I think, expecting her to have company."

"What happened served the bastard right," Grimes muttered.

"I'm inclined to agree with you, Lieutenant. But we are all of us just pawns insofar as Federation policy is concerned. Or perhaps Alberto was a knight—in the chess sense of the word, although the German name for that piece, springer, would suit him better. He was employed by the Department of Socio-Economic Science,

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and directly responsible only to its head, Dr. Barratin. Dr. Barratin is something of a mathematical genius and uses a building full of computers to extrapolate from the current trends on all the worlds in which the Federation is interested. Doncaster, I need hardly tell you, is such a world and the League of Life is a current trend. According to the learned doctor's calculations, this same League of Life will almost certainly gain some considerable influence, even power, under the leadership of your Miss Madigan. . ."

"She's not my Miss Madigan, sir. Unfortunately."

"My heart bleeds for you. But, to continue. To Dr. Barratin the foreign and colonial policies of the Federation can all be worked out in advance like a series of equations. As you well know, however, equations are apt, at times, to hold undesirable factors. Alberto was employed to remove such factors and insure that the good doctor's sums came out. He was known to his employers as the Subtracter."

"Very funny," said Grimes.

"Isn't it?" Damien was laughing unashamed. "But when things went so very badly wrong on Doncaster, Barratin couldn't see the joke, even after I explained it to him. Don't you see, Grimes? You were the undesirable factor that wasn't allowed for in the equation. Alberto traveled to Doncaster in your ship, a Serpent Class Courier. You were with Miss Madigan when Alberto tried to subtract her. You were the adder."

—A. BERTRAM CHANDLER

In Next Month's IF

READING ROOM
by Lester del Rey

At last, IF has its own book-review column . . . each month our favorite Feature Editor will take a long look at the new books in the field and report on them in his own salty style. New Wave? Old Wave? What to read? Consult Lester del Rey every month! Coming: Reviews of **Bug Jack Barron** and **The Left Hand of Darkness.**

THE STORY OF OUR EARTH
by Willy Ley

Willy Ley — dean of science writers — begins his magnificent series tracing the evolution of our planet since time began — and projecting that evolution into coming centuries!

ALSO IN THE SEPTEMBER ISSUE:

Brood World Barbarian by Perry Chapdelaine
Posture Of Prophecy by Chelsea Quinn Yarbro
The Last True God
a new story by Philip St. John

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WHEN THEY OPENLY WALK

by FRITZ LEIBER

The world of nonhumans lies all around you. Feed it, love it, pet it—and one day it will include you!

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"BUT SURELY you of all people, Mr. Hunter, ought to believe in flying saucers," the Sexy New Neighbor said, gulping her brandy and keeping a long-eyelashed gimlet eye on the kitten, Psycho, who had shown great interest in her wide-meshed pink net stockings. "Because for the last twenty-five years the saucer people have been telepathically giving all you science-fiction writers the ideas for all your stories, to prepare us humans for the day when they openly walk among us."

Old Horsemeat, known to human beings and other non-felines as Mr. Harry Hunter, muttered, "Or wriggle," and writhed his long frame a little and thrust forward his ill-shaven jaw and decanted some brandy into it, preparatory to further speech.

Kitty-Come-Here (Mrs. Helen Hunter to non-cats), who had invited the New Neighbor over because Old Horsemeat was easiest to live with when he had a reasonable supply of sexy women around to lecture to on science and science fiction and everything else, decided she had made an awful mistake.

Gummitch, surveying the scene with cool feline unconcern from his hair-hatched, black velvet cushion-throne in front of the fireplace, idly ESP-ed the hate-cat waves emanating from the Sexy New Neighbor and reminded himself to explain to Psycho soon that Legs, Especially Stockinged Female Ones, Are Not For Climbing.

Old Horsemeat splashed brandy in his own and the Sexy New Neighbor's goblets, frowned fiendishly and said (while Kitty-Come-Here held her breath), "You know, Miss Neering, you are the first person—outside of Helen and, of course, the cats—to penetrate my deepest secret. It's absolutely true that I regularly discuss science fiction with a little old green man with a white beard who hails from Arided. We do it almost every other night in the back yard at about three A.M. He gives me the office—the signal, that is—by tapping on our bedroom window with his third tentacle, the one that extends to twenty-seven feet. He then passes along some of the damnedest ideas. One was cat-burglary—that twenty-seven-foot tentacle. Not stealing cats, of course (excuse me, Gummitch), but second-floor stuff like jewels and furs and black leather underwear. The old Aridedan's pretty kinky. His latest brainwave is how we could poison everybody not smart enough to drink and cook with sparkling water, by sprinkling a couple of ounces of plutonium hexafluoride in the city reservoir. His spaceship runs on P-hexy, so he's got lots of the stuff."

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"HE'S SIMPLY testing you on your humanitarianism," the New Neighbor asserted confidently, sprawling her mini-skirted frame along the cat-scarred couch toward Old Horsemeat, though not with quite the enthusiasm and intense interest one might have expected. Most saucer addicts and even dabblers do not enjoy having the saucer scene stolen from them by squares—which includes all science-fiction writers, make no mistake.

"Yeah, I think you got it," Old Horsemeat agreed, absently dropping his hand to the New Neighbor's back and brushing it idly. It felt nice but a little scaly. "That must be why he started putting up objections as soon as I said, 'Let's do it tonight.' "

"You were testing his humanitarianism," the Sexy New Neighbor opined rather wisely, meanwhile subtly luxuriating her shoulders and making what she thought were kitten noises, and taking a large sip of her brandy—no mean tally of simultaneous actions.

"Uh-uh," Old Horsemeat denied. "We got to solve the population explosion somehow. Which with skins like yours around is a toughie."

"We've always got the pill," she countered. "I'm speaking hypothetically."

"The pill'll never be an all-over answer," Old Horsemeat replied darkly. "People get absent-minded. Or they want buckets of kids to boost their egos or hold them together or get relief money. Or else they want to plain suffer for sex—the insufferable puritans."

Kitty-Come-Here sighed with relief, though keeping a watchful eye on exactly how far Old Horsemeat's idle brushing went. She took advantage of the interlude to snatch up Psycho exactly a quarter second before the kitten launched an all-out assault along the Sexy New Neighbor by way of the delectable long pink ratlines, which looked created to receive the tug of tiny claws.

Gummitch lowered his chin to his outstretched forelegs and regarded the scene with relaxed, utter boredom—a very beautiful expression as long as it is on the face of a mature cat.

Old Horsemeat got around to telling how the best thing about the little old green man was that he could do errorless final typing, a labor he performed in exchange for instruction in the art of writing science fiction, so that he would be able to clean up when he got back to Arided, top star in the Northern Cross.

The Sexy New Neighbor knew when she was being had, or decided it was time to show she knew so, for she suddenly straightened up toward the end of the couch away from Old

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Horsemeat and, gazing at the twisting puff of gray fur in the flexible cage of Helen Hunter's fingers, asked somewhat loadedly, "Why do you call him Psycho?"

A short silence ensued.

"HER," Kitty-Come-Here corrected. "Yes, you can tell even at two months. She doesn't have the two little bumps. See? About the name, she actually was psycho at first, absolutely off her cat rocker. Gummitch led us to her. Some dear little children I'd enjoy tieing up by their thumbs and lashing with a dog whip had shut her up for a day or so in a fuse box after petting her half to death. She was utterly kitten crackers the first two days after we rescued her, worse than a juvenile delinquent after a police storm. She'd hide in the television set and scream—or purr and bite you. But then Harry hypnotized her with Gummitch's help and she snapped out of it and became almost too kitten-normal."

"What do you mean with Gummitch's help?" Old Horsemeat objected. "All by myself I shut off all the lights but one candle, and then I did the usual passes and strokings. You know." He had planned to demonstrate them on the Sexy New Neighbor but they realized she was somewhat too big to be a convincing analogue of a kitten. Besides, she was now too far away to make the action seem unpremeditated.

"SOON AS THE kitten was in a light trance," he continued, "I told her about the Bill of Rights and how in this house it applies to cats even more than it does to the talking, walking, atom-bomb-making simians. Maybe that was a little over her head at the time. For instance, cats bear arms naturally and seldom have soldiers quartered on them. But I did convince her that, one, all children belong to an alien, utterly evil species, and that, two, decent relations based on full equality are possible between cat and man. No matter what goes on in furriers' and pounds."

The Sexy New Neighbor drew herself together around her brandy goblet. For when Old Horsemeat ended his ravings, Kitty-Come-Here merely nodded solemnly once and Gummitch turned on her a sinister gaze. She felt she had strayed into the old witch-house of a cat-centered Charles Addams family.

Psycho chose that moment to erupt from her finger-cage, flash like a gray streak past the Sexy New Neighbor, who dodged unnecessarily but quite understandably, and executed an almost incredible vertical leap, which ended with a soft landing on the mantelpiece, where she began coolly to wash herself.

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"Did I remember to tell you cats can levitate?" Old Horsemeat demanded of the visitor. "Sure they can, all of them. But they hide it from us. They pretend it's just jumping. What a laugh! I think they all migrated here circa 4,000 B.C. from a high-gravity witch-planet. My old Aridedan's got a green cat thin as a string bean that can jump over houses. Second and third story windows open even an inch are a cinch for him. He's kinky about women. He likes to crawl into bed with them, very softly. Then he slowly edges up to them under the sheets. His fur is silky as chinchilla. Then he bites them."

The Sexy New Neighbor remembered she had to work tomorrow, gulped her nightcap and somewhat dubiously accepted Old Horsemeat's offer to see her home next door.

She pointed at a sleeve-like arrangement in the bottom of the window next to the front door.

"What's that?" she asked.

"The cat door." Old Horsemeat told her. "You think this house is a prison.?"

She concealed a shudder. Old Horsemeat didn't notice it and continued blithely—or did notice it and continued fiendishly—as he swung open the human's door with a grandiose, loose-armed sweep and a bow. "Besides levitation and a lot of other secret powers, cats are the next brainiest animals to man—or maybe brainier and hide it—as is proven by their longevity. A cat can live twenty years, far and away the longest life span for an animal anywhere near as small. And if you measure life span by total lifetime heartbeats for a maximum-age animal, the cat comes at the top of the list after man—1,350,000,000 heartbeats, which is 150,000,000 more than the Methuselah of elephants. I'm sure that on most worlds the felines rather than the simians are actually the chief gnosiphoric family—that's a word I've just invented meaning wisdom-bearing. What's more, Miss Neering, or Eloise, if I may presume on an evening's conviviality—"

As he spoke, Old Horsemeat, reeling only a little, guided Miss Neering down the front steps, keeping a frim grip on her left upper arm while she kept an even firmer grip on the banister. Now as he steered her a weaving course across the lawns and as he shifted his subject matter from the felinocentric to the personal, his voice changed from oratorical to intimate and faded out.

II

KITTY-COME-HERE could watch the seeing-home operation from the front porch, where she had joined Gummitch for a breath of fresh late-summer air and

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a shower of moonlight. When Old Horsemeat returned, which was very soon, he walked in past them without a look or a word, poured himself a very large brandy, drank half of it down and, when the door had closed behind his cat and wife, exploded with, "God deliver me from that incredible kook! Not only a saucer nut, but she believes Bacon wrote Shakespeare—while riding in a saucer over New Atlantis, I suppose. It's the invariable sign of the crackpot—they believe not just some but all of the guff. Not only saucers and Bacon, but then there is vegetarianism, reincarnation, compost farming, pyramidology, hollow earth, instant wisdom through psychedelic drugs, gut-level thinking smarter than Einstein's induced by bongo drums, the whole lot, besides being unalterably opposed to every chemical and every engineering discovery that's holding our collapsing civilization together. Did you notice how she didn't turn a hair when I mentioned plutonium in the drinking water. But she went pale when I added fluoride."

And with that he snatched up Psycho, hurdled himself back into the armchair beside which he'd just very carefully set his glass. He began to croon at the kitten, holding it to his chest and rocking a little, as if only that behavior could preserve his sanity. The kitten fought wildly for a moment, then quieted.

"Uh-huh," said Kitty-Come-Here, agreeing with her husband but without any great vehemence. She knew the habit husbands have of berating to their wives any woman to whom they are sexually attracted. She yawned. "I'm going to bed," she said, moving about, turning out lights.

"Leave on that Tensor lamp across from me," Old Horsemeat said. "I've got to hypnotize Psycho first, and it'll do for a candle. That kooky woman got her all roiled up. My God, Helen, don't you realize it's cult-crazy people like her who are trying to kill science and hurry us into a new dark age?"

Kitty-Come-Here stopped and thought for a while and then said judiciously, "I wouldn't worry about Miss Neering, Harry. I think her crackpot delusions are very superficial. Underneath she's much more interested in small, deep saucers of brandy than the flying kind—and in tall, sexy Earthmen rather than little old green men from outer space."

She started up the stairs.

Old Horsemeat just shrugged. Rhythmically stroking Psycho, he began to croon in deep winning tones, "You're getting sleepy, little cat, very sleepy. You can hardly hold your head up. You're getting sleepier —"

Psycho started wriggling.

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KITTY-COME-HERE stopped on the sixth step and looked back at Old Horsemeat. "I am going to bed," she repeated. "You can hypnotize Psycho all night. Or read Herman Hesse. Or get dead drunk and pass out on the floor. Nobody cares. This is Liberty Hall. But—" a new and somewhat knifelike tone came into her voice— "but—and I want you to listen to this, Gummitch—"

The big cat lifted his head from where he lay again on his throne and looked straight at Kitty-Come-Here.

"But," she continued, the word now a small explosion, "if that big brutal Svengali over there merely tries to stir out of this house tonight in the direction of Miss Neering's, say on the excuse of returning that kooky slut her compact and handkerchief—oh, we saw him shove them down in the crack of the couch, didn't we, Gummitch, when he thought neither of us would notice? Well, then you bite him, Gummitch, you bite him good and hard. And if he still persists, you come upstairs and bite me until I'm wide awake and insane with anger."

Gummitch dropped his head again with the effect of a curt nod of affirmation. Old Horsemeat did not deign to rely. Kitty-Come-Here's footsteps proceeded upward and died down the hall.

The living room was eerie with its one small cone of bright light in the great mass of semi-darkness.

Old Horsemeat began to chant rumblingly, "Now you're getting sleepier and (yawn) sleepier, little cat. You can hardly hold your eyes open—"

Psycho began another bout of wriggling. Gummitch lifted his head again and eyed her with peculiar cat-to-kitten fierceness. Psycho quieted once more.

"You're getting still sleepier, little cat." Old Horsemeat rumbled on. "Every little cat muscle in you is relaxing (yawn) until you're limp as a dishrag. Now your eyes are completely closed. Your head is down. You're asleep, little cat, you're a—"

The hypnotism worked. Old Horsemeat's head sank back, his eyes closed fully and his rumbling changed into a gentle snore.

III

EYES BRIGHT as diamonds, Psycho held absolutely still in the big, limp hands.

For twenty seconds the comfortable old living room was quiet as a crypt, except for the gentle snoring.

Psycho eased from between the hands, flowed down Old Horsemeat's trousered thigh and landed beside Gummitch like a puff of coherent smoke.

Without a word or a look,

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Gummitch turned, made a short run past the Tensor's bright cone, and sprang through the cat door. Psycho swiftly followed, executing a comically frantic twist and a clawing pull midway.

They stood side by side at the top of the front-porch steps. The faintly cool yet balmy night was alive (for cats) with many sounds, from the soft panting of a big dog in the high-fenced yard beyond Miss Neering's place to the stumbling walk of a nearby beetle over crisp, fallen leaves. Moonlight sprinkled down on them, a palpable silver rain. And there were cat-multitudinous sights (a many-layered world of sharp shadows) and scents and the pressure of a faint breeze on whiskers and fur, and the upward thrust of painted old wood under paw-pads.

Tonight this shadowy, silvery, murmury world was spiced with excitement and carried also a special call, yearning, imperious and enravishing.

Gummitch made his head into a compass and slowly turned it this way and that, hunting the vector of the call. Finally a needle of nerves stopped rocking. His head and eyes were directed at the hedge in front of Miss Neering's place. Again without word or sidewise look, he trotted in that direction with Psycho loping close at his right side, head level with the big cat's shoulder.

A fixed male cat, the Mad Eunuch, in whom neutering had produced a weird belligerence and with whom Gummitch had had many famous fights, came tracking after them as they reached the hedge and went slinking along it. But Gummitch paid the new and more careless paw-paddings no attention. Even Psycho did no more than stiffen his silvery fur. And for once the Mad Eunuch did not run amuck, only followed two dozen cat paces behind.

There also fell into line, still farther back, an almost skeletally gaunt alley cat, whom Old Horsemeat had nicknamed the Flying Dutchman for his raggedy black, dirty-white and reddish fur and his habit of always approaching tremblingly and with an infinite caution the Hunter back door and then tearing off in mad panic if someone came out or even if footsteps sounded too loudly inside. Gummitch himself had never been able to contact this unhappy hobo cat, for whom he felt considerable sympathy because of his own background as a starved and orphaned kitten. If he hadn't been rescued by Old Horsemeat and Kitty-Come-Here—and hadn't died—he might well have become such a dismal bindlestiff.

As THE LITTLE cat cortege passed the hedge and started along the high fence beyond it, the big dog

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began to bark hysterically. But the cats ignored this utterly, except that Psycho jumped over Gummitch, sudden as an electric shock, light and noiseless as a feather, and then proceeded along as if nothing had happened and as if her courage had never faltered, except that now she was on the bigger cat's larboard instead of starboard side.

Nor, across the street and moving in the same direction, did the big sleek black male and his silvery tiger consort take any note of the sudden torrent of canine noise.

Nor did even the Flying Dutchman do more than tremble a little harder as he single-footed forward. Evidently the dog found something eerie in this utter lack of reaction from cats to his most horrible threats, for his barking suddenly became more whimpering than hysterical and faded down abruptly as he fled to the protection of his porch and magic doormat.

Ahead was a small park with a grove of trees in its center, all balmy in the moonlight. It was there that Gummitch's compass led them—and not Gummitch's alone, for now it was clear that there was a trickling of cats from all the streets around—tabbies, Persians, Siamese, tiger and barred, alleys, house and store—and all silently and unconflictingly headed for the grove in the park.

A cop on his beat would surely have noticed them. But the two cruising by in their squad car could not see low-striding cats. In fact, they were becoming unable to see night-time human pedestrians, except as potential rioters, thieves, looters, delinquents and co-killers.

An old drunk crouching away almost cat-low from the police headlights did notice the streaming cats and he studied them blinkingly, long after the police car was gone. Fuzzily the thought came to him that a world with sights as strange as this might still be worth living in—or perhaps it was only that the delay lowered the alcohol content of his blood—at any rate, the hazy idea of suicide sank back down into his subconscious like miasma into a marsh. He turned back toward Skid Row from the street that led toward the river.

A girl saw the cats, though her boy friend didn't. He was intent only on her. Arms around each other, they were headed toward the grove.

She thought the cats were kind of beautiful but they spooked her.

So she said, "Honey, I've changed my mind. Like let's go to my place like we planned."

He said, "But, baby, you just said you were afraid your folks—"

She said, "I just remembered

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they're sure to be away all night. They always get stoned and pass out when they go to the Wilsons'."

He said, "I don't know. It doesn't sound too safe to me."

She said, "Are you scared, honey?"

He said, "Of course not. But the way you keep changing your mind is driving me out of my gourd."

She said, "Please, honey, I'd rather. And it'll be nicer."

He said fondly, "You're a freak, baby, a complete freak."

She said, "Besides, I'd get uptight with all these cats watching us."

He said, noting them belatedly, "Crazy. Must be Bast-worship night. Luna in Leo. Cats high and doing their God-thing. Make my nose run—not their fault, just allergy. Okay, okay, honey. Anything you say."

The lovers turned back. The cats flowed across the springy turf, their vari-colored fur all bright platinum to gleaming obsidian in the moonlight, no spectral colors at all. As their first ranks entered the grove, there was a faint crackling of fallen leaves and the platinum-obsidian became a moving variation of brightness in the moon-dapple everywhere.

No, not quite everywhere. Near the center of the grove, on the side away from the moon, was an ellipse of unbroken blackness a little more than twenty feet long.

IV

THIS SHADOW was cast by a bulge-centered, flattish, circular object poised in the treetops exactly over the small glade in the middle of the grove. At first glance it would have seemed to rest on the branches all around. But then it would have been seen that the branches up there were hardly more than twigs, not strong enough to support such an object even if formed of thinnest aluminum. And in any case the twigs were not bent particularly downward. It would have become clear that the object, which resembled two huge saucers clapped together rim to rim, merely rested among the slim branches, held up by some invisible power of its own.

The cats filled the grove, crowding around the black ellipse, but none entering it, as if it were a black abyss and they all nosing at its brim.

A bough creaked and a large, slim shape dropped down to crouch effortlessly in a moon-pied, wide crotch midway between the circular vehicle and the ground. All the cats looked up, their eyes close-paired moonstones or pearls baroque with bulging, vertical black streaks.

" 'Allo, li'l fren's," a soft yet vibrant voice called down. "I'm glad many of you came tonight, for I've news. May be a relief to some and just may make a

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few sad for a while. But not to worry, any of you."

The accent of the voice was very strange and the tone stranger. If one can imagine the purring of a cat, or a tiger, shaped to human speech, shaped to English, one gets an approximation.

Stranger still, perhaps, though most appropriate, all the cats below had begun to purr like sleepy beehives the instant the shape had dropped to the crotch.

"You 'ave a good week, li'l sneakers?" the voice continued in a note of affectionate badinage. "Meat, clear water, milk? The monkeys decent to you?"

The purring continued to rise like a low-pitched note, sounded pianissimo, in an orchestra of cellos or viola da gambas. But here and there it changed to low wailings and mewings.

"Tha's bad. Tha's 'bominable. We'll kill us some nice people, eh? Kill us some hippies. Kill us some cops."

GRADUALLY THE shape became clearer in the moon dapple. Imagine a figure midway between that of a leopard, a large cheetah and a slender and supple young woman covered with short fur. Still a mere approximation. It crouched a little, more like a young woman than a feline. But the hand by which it steadied itself had dark pads and long claws sharply curved at their tips. The femininity was definite. It was beautiful.

Suddenly it leaped forward out of moon dapple into darkness and landed with hardly a sound in the center of the elliptical shadow. There it stretched prone, almost invisible except for the low silhouette it made with tufted ears and slowly switching tail, a slim recumbent sphinx. After a while there was the faintest glint of fur and claw and the glow of eyes whose pupils were like black flowers with five narrow petals tapering to points.

"Come on. Come to me," the voice purred. "Don' be scared."

There was a wait. Then Gummitch strode into the ellipse, his head high, his fur flat. Psycho moved anxiously and strained forward but did not follow. The sphinx reached out a slim paw to catch up Gummitch. But instead of making his body yielding he stood with four legs straight and firmly planted and she contented herself with softly tickling his chest and stroking his back, her claws retracted. He suppled himself without becoming limp and he twisted his neck appreciatively.

"I know you," she crooned, "you're the cool one. What is it you're called? Oh, yes, of course, Goomitch—what a name! Trust the monkeys to think up one like that, bad as their language, which to tell the truth, Goomitch, I'd

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never have bothered to learn except I was bored and wanted to make familiar noises at you and your fren's. Oh, they're not all fren's, eh? Well, it's the same with my people.

"But how about it, Goomitch, shall we get rid of the monkeys and put you cats in charge around here? Like it should be. Except you're all pretty little.

"What's that you say? There are big cats across the waters? Bigger even than me? Amazing! I'll have to investigate if I still got the time.

"They're here, too? In a big park? And you've seen them? Actually seen them yourself? Old Horsemeat took, no—smoogled you in under his coat? What kind of a monkey name is Old Horsemeat? Oh, I see, it's your name for him, from what he feeds you.

"You tried to talk to the big cats but they couldn't understand you? They were—stupid? That doesn't make sense. You know what, Goomitch, I don' think you and your fren's are related to them at all. I think you're all dwarf jester-cats and playcats lef' behind when some ship of my people made a landing here millennia ago. Your cats' cradle is in the stars, maybe. Anyhow, you should come to my planet! There you'd find all the cats as much smarter than you as you're smarter than mice.

"You don' think mice and rats are so stupid? Well—butterflies then, gol'fish.

"The big cats are dangerous? Now you're talking like a monkey. They keep them behind bars? In cages? That's indecent! That's a crime against the universe! The monkeys should be destroyed, if only for est'etic reasons. I think I'll kill as many of them as I can before I go.

"You wouldn't like that? What kind of a cat you are, Goomitch? You've got a slave mentality! What do your fren's say?"

The slim sphinx lifted her magnificent head, tufted ears peaked, fur bristling, long whiskers a-twitch, lips drawn back from fangs, five-petaled eyes flashing.

The purring round about increased. The cats pushed closer inward, though still none of them besides Gummitch ventured from the moon-dappled space into the black ellipse. The circle of their small eyes gleamed like rosaries of pearls.

Slowly swiveling her head, the sphinx asked clearly, thrice, "Should I kill the monkeys?"

There were mewings, hissings and wails, though the purring still predominated.

The black, five-pointed stars of the sphinx's pupils contracted and she looked upward a little and held very still, as if listening to the inaudible and dissecting and numerating it.

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At last she dropped her head and said, "Ffft! They're slaves too, except for a few lonelies and pure blood-mads and some that, excuse my bad manners, aren't very right in their heads. I should have expected they were all cowards, when only one came when I called." Again she lifted her head. "Won' some more of you come to me, please? Won' jus' one?

"What's that you say now, Goomitch? You're not a slave? You live with the monkeys as an equal? No, that can't be. Someone's—how do you say?—sold you a bill of goods.

"No, not even with one monkey is it possible. Monkeys are just monkeys, always.

"I don't quite.... Yes. Yes. Oh, now I understand. You think you control what your monkey does, or at least have fifty per cent control? That's what every slave believes—when times are good. But when times are bad, when there's hunger, something stolen, something broken, a child scratched, then's the moment of truth. 'Allo, who's this?"

The sphinx's gaze went beyond Gummitch. Trembling in every emaciated member and putting one shaking foot at a time in front of the next ahead, as if he were walking a tight wire, the Flying Dutchman had stepped across the boundary of darkness. His ears were laid back, his big-pupiled, protuberant eyes stared, his ragged hair was irregularly erected, he panted, showing his yellow fangs, one of which was broken. His slack, long, pale-pink-and-black tongue lolled from the side of his mouth.

Finally he came within the sphinx's reach and stopped, as if he had expended all his courage and energy in the act of a lifetime. He swayed and almost fell over.

V

FAR MORE slowly, tentatively and gently than she had with Gummitch, the sphinx crept out a paw and touched him thistledown lightly. As she feather-stroked him, he responded more swiftly and completely than Gummitch had and soon collapsed into the padded, fur-edged hand. She carefully lifted him and held him lightly against her breast.

"There, there, there, Flyin' Dushman," she crooned. "My, my, oh, yes, but you've had a hard life. But you never been behind bars. You never los' your bravery." She looked up. "What's that you're askin', Goomitch? Oh, you noticed my 'if I still got the time' and 'before I go.' You got a mind like a detective. Well, it's true what you guessed. Listen to me, all of you! My sub-etheric SOS—after the explosion of the... *Saber-tooth,* you'd say, with only me outboard—finally got

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noticed and a star-drive ship bound from Alpha Libra Four to the Pleiades is picking me up at dawn at the top of your ionosphere above your south pole."

The purring of almost all the cats turned to a subdued cater-wauling and to whimpering mews.

"That's nice," the sphinx said. "I'm glad you're sorry a little. I mus' say I'm a li'l sorry too, jus' on your account, though I'll be glad to leave monkeyland!

"One thing more." With a final caress she set the Flying Dutchman down as far away from her as Gummitch stood. The hobo cat reeled a little, but then although trembling once more, got his balance. "I 'ave space for three or four of you aboard. Who wants to come?"

The purring recommenced, became a great soft vibration. All the cats in the moonlight strained forward one more time, yet not one entered the inky ellipse.

" 'Ow about you, Goomitch?" the sphinx asked winningly. "You come with me, eh?"

From the edge of the ellipse, Psycho mewed anxiously.

Gummitch stared the sphinx straight in the eyes. Then without changing his gaze, he deliberately moved backward half the length of his body.

At the same time the Flying Dutchman gave a rasping, ragged "Phrrrt!" like an aged drunk trying to baby-talk. He staggered forward.

The sphinx caught him up again and said tenderly, laughing at herself, "So you's all I get, you old wreck, you ancient mariner. I bet you and your parasites burn out my demicrobing machine!" She looked up. "Remember me," she said, impassive-faced. "Tell your kittens about me. Life's not so bad here and now, you think. A few of you, like Goomitch, even dream of an impossible cat-man symbiosis. But the times will come again, even here, when you're hunted down as witch-things, yes, hunted for food. Remember me. And then when your day comes, as it will, put down the monkeys without mercy. And when you finally get the star-drive, come visit me at the Pleiades. Ask at any inhabited planet in the cluster. Remember."

When Kitty-Come-Here, again cleared-eyed, primped and lace-robed, came briskly downstairs the next morning, Old Horsemeat was still asleep, pain-faced, with Psycho in his lap, while Gummitch was coiled on his cushion. As she went around to *whir* drapes apart and let in blasts of sunlight, the two cats wakened. Gummitch mewed a casual "good morning," and started toward the kitchen. Psycho followed him.

Old Horsemeat's eyes slowly came ungummed. Then he gave a sizable start.

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"Oh, my God, Helen," he said. "Easy on that light. Why didn't you make me go upstairs to bed? I'm so stiff I know I'm going to break something unkinking."

"Up to bed?" she asked in mock amazement, *whirring* another set of drapes apart. "Why, I was letting you have your night on the tiles and it's your own fault if you were too unenterprising to anything but pass out and get creaky-jointed. For that matter, I gave all three of you your night on the tiles and none of you seems to have taken advantage. What stay-by-the-fires!"

"There wasn't any fire." Old Horsemeat complained morosely as he gingerly worked with his fingers at his neck and the small of his back. "In fact, it's still damn chilly, you would-be murderess."

Next door Eloise Neering woke with the thought, "That big, old, conceited lecher and his brunette Lucille-Ball wife! What a scene! And all those crazy cats!"

—FRITZ LEIBER

GALAXY'S STARS

For many years the credit line "illustrated by GAUGHAN" has heralded some of the most imaginative (remember *Dragon Masters* and *Specter?*) artwork in our pages. With this issue that name moves to the masthead as Jack Gaughan becomes Associate Art Director of the GALAXY magazines, an appointment we have long anticipated. In recognition of his outstanding work in the field, Jack has received three Hugos to date, and he will be the guest of honor at the World Science Fiction Convention in St. Louis in September—only one other artist has been so honored in the field. "I have been reading science fiction," Jack says, "since a nun in a Catholic high school made me read *Out of the Silent Planet* as punishment for opening a big mouth; and I've been hung up on the stuff ever since."

Leaving home base in Ohio after serving in the army, Jack came to New York and did the nine-to-five routine as art director and consultant for various ad agencies and film companies. Till his wife encouraged him to stop making money and to do what he really wanted. He's been sf-ing ever since.

Believe it or not, Jack lives in a big, bat-filled (the winged kind) belfry in Rifton, New York with wife Phoebe, son Brian, daughter Norah and mother-in-law Susan—all artists. When he doesn't have a paint brush in hand, he's holding onto a hose and putting out Rifton fires; he's secretary of the local volunteer fire department. And there he sits, as we write this, thinking "What in hell am I going to say to 3,000-ODD science-fiction readers at the Labor Day convention . . . ."

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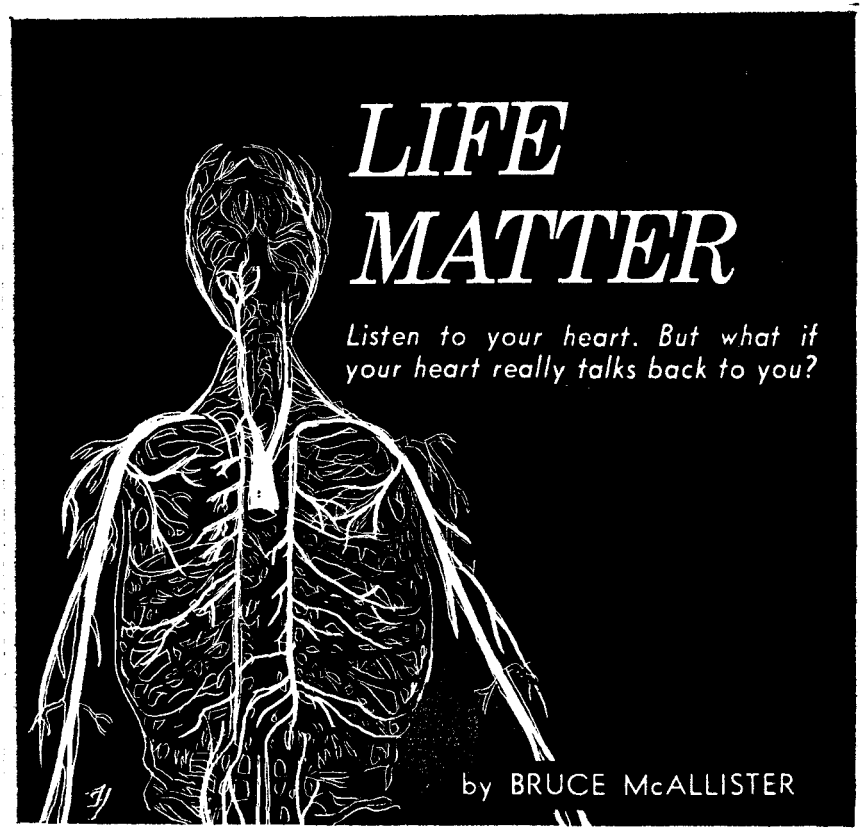

LIFE MATTER

Listen to your heart. But what if your heart really talks back to you?

by BRUCE McALLISTER

LAGRAD TIMMOTHANE walked across the yellow sponge-plastic floor of the Hospital library to Information—a multi-faceted computer—and stared with confusion at its steel-blue features.

From his right a feminine voice said pleasantly, "You're new, Green-eyes. May I help you?"

The girl had appeared from a door next to the computer and was offering a smile to match the cordial way she'd spoken.

"I don't know if you have any tapes on it yet, but I'm interested in any information on the Far East New."

The girl turned from him, began punching rhythmically at

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the computer keyboard and said, "Are you thinking of joining the survey?"

"No. Rather, I don't know yet. My brother is out in the New, and I suppose I'm considering it. Right now I'm resting for the Operation." Lagrad hesitated and then added courteously, "I'm Fifth Gardner for the Hospital Circle until the Operation."

She turned back to him. Mixed with an odd far-away look in her eyes was a mood that could have been anger. Lagrad felt confused; had he said something wrong?

"I'm sorry," the girl said. "We have nothing on that new Sector."

Lagrad noticed the piece of jewelry over the girl's left breast. Molded from gold and a large red stone, the heart-shaped brooch was almost phosphorescent but easily hidden by the pink curls of her dress—a dress style in perfect match with the top-knot of pink curls resting on the back of her head like the crest of a bird. Her forehead and scalp back to the curls had been rouged pink and—now that Lagrad thought about it—the girl was attractive, even in her painted way.

His eyes returned to the brooch. Inside his head, Lagrad's heart croaked into sarcastic coherency: *So someone still respects the shape I'm in. . .*

Lagrad sent back a sharp thought.

Keep silent.

You know that's impossible, his heart retorted.

LAGRAD managed to disregard the very real voice that sizzled in his head, all over his body. The Operation, he reflected to calm himself, would soon remedy permanently the annoyance of *that voice.*

He had been staring at the girl for a minute when she said, still upset about something, "If you're wondering about my brooch, it has a special meaning for me." After a moment's hesitation she added: "I suppose you're another who feels no compunction about going through with the Operation!"

Her sarcastic tone was unexpected, as was the subject of her comment.

Lagrad said, "I don't understand."

I do, said his heart.

Shut up, heart! Let me talk to this girl. . . Lagrad calmed himself again by remembering that the Operation would be in three weeks; in three weeks his heart would be silenced and replaced with a synthetic heart that would never bother him with words.

"I really don't know what you mean."

"I'm sure you don't. We're both young but I have gotten to know my heart and the Truth. The Operation is very wrong."

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Lagrad had never heard talk like this before. And the girl was so forward.

"And you won't understand what I mean," the girl resumed, "until you've really listened to your heart. Haven't you heard what it's trying to tell you. Your heart has as much right to live as you do, Green-eyes."

Again the gauche colonial-class use of the appellation—which meant, as all such breaching of proper names meant, a liking for him. But the liberty the girl was now taking socially with Lagrad bothered him much less than her negative opinion of the heart operation.

"When is your Operation?" the girl asked, her anger waning.

"In a few weeks."

"Would you be willing to spend some time talking about your heart?"

Lagrad smiled, understanding now. The girl was just an easy "love-to" and the talk about the Operation was meant to make him curious, her come-on line. Lagrad had no objections. Though he'd never had relationships with those women society called love-tos, he knew that involvement with one or two of them a year was acceptable. It wasn't written down anywhere—but he knew.

"When?" Lagrad smiled again.

"Tomorrow evening at eight. In the room behind that door." She added, "My name is Beodora P'Att'ann."

Lagrad looked to the smooth door behind the girl, then nodded. "I'm Lagrad Timmothane."

Your name is Lecher, his heart boomed.

Shut up, heart. . .

As Lagrad turned to leave, he noticed again the faraway look in the girl's eyes.

AS FIFTH GARDNER for the Hospital Circle Lagrad had his own tower for gardening. Below his tower thirty grassy acres were ribbed with aesthetic shrubs and flowers, all stretching to the territory borders of the other gardners, or to the wall of the Hospital—that monolithic building where he would soon be inhaling the anesthesia for his Operation.

Everyone at twenty-one years of age—the age for the Operation, the age when the heart's murmurings became at once totally comprehensible and obnoxious because of their coherency—went to a Control hospital world, was employed in a relaxing job of gardening, library work, room maintenance or supply-ship unloading and awaited his or her appointment in the Operations room. The whole procedure—preparation and Operation—was not particularly unpleasant. And, according to doctors of all specializations, the Operation was mandatory for an

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adulthood of physical and mental health.

The control panel in front of Lagrad offered a lone blinking light, the symbol of the last mobile garden tool patrolling its territory under Lagrad's command: one killer machine was still out looking for unesthetic plants which random nature insisted on sneaking into the hospital grounds. Dusk was settling now, and Lagrad deactivated the last killer, which began to coast toward the subterranean housing for the eighteen similar garden tools.

He found himself thinking of his brother, of the life his brother had chosen. Miccel was the rebel of the family. He had chosen not to enter the Mal-space Biotronics Engineer Guild of Lagrad's father. He had chosen the New.

Waiting around for the Operation—Lagrad realized—also gave one time to make the big decision: either to marry a woman, retain the security of employment in one's father's guild, and remain on one of the Control worlds, most of which were like the Crux-planet, Earth; or to leave the Control Systems entirely, postpone marriage perhaps indefinitely and depart for the virgin darknesses of the New galaxies, as his brother had done quite recently and quite romantically with the Survey.

Lagrad had that decision to make. There was no woman in his life, so the New had the advantage.

REPEATING THE path that had led him to Beodora the previous morning, Lagrad entered the main library room, walked to the information computer, stopped to gaze at the door behind the counter and passed through an opening in the counter to reach the rendezvous door.

Before he could knock, the door slid open and he froze.

The room beyond yawned at him in a colorful tableau of faces, showing him the nearer features of all-pink Beodora P'Att'ann, who had just opened the door for him—and also the farther features of a dozen young men and women dressed in various vogues of the day: a violet curl-dress with matching conical hair style; a chartreuse man's jump-suit with transparent plasticloth sleeves; a saffron-colored star-burst outfit.

But most important, Lagrad noticed they were all wearing heart-brooches like Beodora's. The girl had been serious. She wasn't a love-to after all.

Before Lagrad could brood on his disappointment, Beodora took him by the arm, by his own transparent sleeve, and pulled him slowly into the room. Faint smiles were beginning to appear on all the faces in the room but no one spoke. Lagrad was uncomfortable in the silence.

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Abruptly Beodora addressed her fellow members of the club.

"This is Lagrad Timmothane, who is residing here on Greenjohnson in preparation for his Operation." To Lagrad she said, "We are all librarians, Green-eyes, and our sharing of one belief makes us a minority club here at the Hospital."

Again to her colleagues, she said, "Submitting or not to the Operation is an individual's prerogative. We have no right to intimidate Lagrad into a decision against the Operation but I do believe we have the right to express our belief."

The librarians continued to watch him, still with faint smiles.

After a pause Beodora went on: "As librarians we know the tapes in our library by content as well as by number and subject indices. Consequently we know history. We know the past and one learns from the past. Lagrad, please listen to what the past says. Over and over again it tells that man's heart should remain in his chest—where it was born to be—and not be ripped from the blood-roots of man's breast to be replaced with a synthetic pump."

As if on cue, a tall young man about twenty-five spoke suddenly. He quoted a strange piece of literature, pro-heart and anti-Operation. Then another librarian spoke up, quoting—and then another and another.

In fifteen minutes Lagrad was dizzy. The voices of the librarians were telling him the same strange thing over and over again.

"Keep your heart—"

"Listen to the past—"

"Keep your heart—" After quote upon quote, the voices were fusing into one sound, woven together now by Beodora's sudden voice, quoting and quoting.

"I heard a wise man say, give crowns and pounds and guineas, but not your heart away, and oh, 'tis true, 'tis true; God made a heart of gold, of gold, shining and sweet and true, gave it a home of fairest mold, blest it, and called it—you; two evils, monstrous either one apart: a cry of absence, absence in the heart!"

His dizziness roared. Over it Lagrad heard Beodora whisper just to him, "I like you, Green-eyes. And I like your heart. Keep your heart, Green-eyes. For me."

Lagrad turned suddenly, broke away from Beodora's touch, stumbled from the library and walked quickly across the neatly trimmed grass toward his dormitory.

His heart remained silent. Lagrad was sincere when he said, "Thank you, heart, for your silence."

IT WAS embarrassing, but at 4:35 the next afternoon after work, Lagrad found himself seeking Beodora in the library.

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"I'm sorry about last night. I hadn't realized so many others would be there with you."

Lagrad found it easy to gaze into her faraway look and to disregard the formality he'd always been taught and to confide in her.

"We're sorry, too. But it seems you just don't know how to listen, to think about things that are new to you."

The girl's condescension was heavy and Lagrad felt angry for a moment.

Silence reigned. Beodora's expression was pink marble.

Under the pressure of the silence, Lagrad's anger died.

He nodded, sighed and amazed himself by saying, "You are so right. I am naive. My life up to now has been quite limited. I will try to listen better." He added: "I wanted to ask you if you'd care to go with me to the Ponds after you've finished here.

Beodora flashed a wise smile and said, "I would, yes... but aren't you afraid I'll start lecturing you again?"

Lagrad appreciated the humor, feeling at ease for the first time in a long time. Returning the smile, he was suddenly aware that the Operation question was secondary in his mind. This strange girl named Beodora—definitely not a love-to—was the prime attraction, her odd credo concerning the Operation coming second.

They went to the Ponds that evening and every evening for two weeks, unless they were hearing tapes, ancient and modern, which Beodora had selected for them from the library. The tapes covered the subject of the human heart but there were also words about love, green worlds, happiness, joy, ecstasy, and marriage. Marriage. Lagrad began thinking of marriage, and going to the New began to dim in appeal.

LAGRAD DISCOVERED that Beodora was two years older than he, and she had originally come to the hospital world for the Operation—but had decided against it when she realized the Operation was an atrocity against life and man. During that time she had also decided to marry. But to marry only the right kind of man, a Truth-seeking man.

Beodora was a fine young woman and Lagrad even enjoyed it when she lectured him about history when they were by the Ponds—or in the side room of the library—or by the flowers around his dormitory.

"Man's been changing. Evolution molds him. Among other things, man has gradually lost his hair. Once he had hair on the front half of his scalp and on his chest. Once man's arms hung almost down to his knees instead of to his hips, like today. Once man had five toes instead of three.

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And once man had a silent heart. Then, when man stepped off his nest-planet—the planet we call Crux or Earth—and offered his vulnerable body to radiation poisons of Mal-space, his heart changed and began to babble, incoherently at first, just as our lungs are doing today. In time, man's heart started speaking to him coherently—just as our lungs will do some day. And man decided all talking hearts would have to be removed. Too much competition for man's talking minds, man said. The weave of the heart had become the structure of a pump plus the tapestry of a thinking mind and man felt insecure. And man always strikes out whatever makes him feel insecure."

Then Lagrad's heart would follow with: *You didn't create me. I was born with you. Should one brother kill the other? Remember the legend of Satan-Cain? Give me a chance, and you will benefit from my presence . . .*

Then Beodora would resume: "Just because man has been replacing his real heart with a synthetic one for over a century does not mean he's right in doing so. Man has blundered often in history. Once he believed one small planet was the center of the universe and that everything circled it. Once he believed he was very special, the only life-form with intelligence and love in the universe, chosen by an omni-creator for the honor of wearing Intelligence, Love and Blessing. The Miracle Asteroids of a beautiful peripatetic race now somewhere at the far reaches of the universe proved man wrong about that, too. Now man believes he should kill his talking heart. You and your heart are almost like twins, brothers, Green-eyes. What your heart feels and knows is nearly the same as what you feel and know."

You say "Nearly the same," They're not ever exactly the same?

Not entirely the same, his heart would answer him. *I have my own ego. You have yours. I feel you, and you feel me. I am a human-heart-being, you a human-being. If I felt only what you felt, I would not be trying to convince you of my right to go on living within you. Give me a chance, and compatability will come. You'll see. . . .*

The day finally arrived on which Beodora's usual subtlety or reticence on the matter of marriage dissolved.

She said, with her faraway look, deep, dark and beautiful, "I don't think I could marry a man who was missing his real heart. I'm sure I could not, Green-eyes."

At this Lagrad felt frightened and quickly made up his mind against both the Operation and going to the New.

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IT'S BEEN *four months, heart, since I canceled the operation, and you've been with me, speaking clearly and helpfully. You've listened, praised and complimented me when I've tried to raise the courage to propose formally to Beodora. You listened through my ears when I told my parents I had decided against the Operation. You heard their anger. You watched through my eyes when I met some more of Beodora's librarian friends with their heart-brooches, faraway looks and perpetually faint smiles. As you must know, I'm not happy, heart. I worry about many things. About having to find work elsewhere until the Guild Directive comes through in a norm-year or so. I worry about larger matters too.*

You should not be worrying, his heart said firmly. *There's nothing really negative in your life. . .*

His heart was silent.

I wish you'd talk to me now, heart. . .

His heart was formal.

I only offer words and decisions when you ask for them or when your emotional state is such that you could be helped by my advice.

Maybe so, but still I wish you'd give me more time to think things out on my own before helping me with them. . .

Lagrad felt tired, sad and confused. He had been walking toward his dormitory and now, changing directions, he began to stride quickly toward the library. To his mind's eye his heart was a black entity recently suffused with secrecy. The curiosity Lagrad felt about it was half fear, as he contemplated the strange new personality emerging from his heart. The dark side of the heart, the human heart . . . Perhaps, Lagrad considered, there were tapes in the library that spoke of a dark side.

Beodora was working in a back storeroom of the library. Lagrad entered the library for the first time without her supervision and checked out literature tapes on the subject of hearts.

In an audio-visual cubicle, Lagrad listened to the tapes and, in twenty minutes of spinning, crackling and speaking from the past, the tapes gave him the dark side of the heart.

" . . . we may live without conscience and live without heart but civilized man cannot live without cooks; consume my heart away, sick with desire and locked on to a dying animal it knows not what it is; the heart is deceitful above all things and desperately wicked: Who can know it?"

Lagrad rushed from the library, the dark quotations acidic on his mind. His heart began objecting loudly.

You don't understand . . .

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THE RENDEZVOUS for the day was scheduled for 6:00 at the Ponds, But no, Lagrad concluded, he would not see Beodora today. He'd miss the rendezvous and wait for her to come to him. She had deceived him. She was a librarian, so she must have known about man's distrust of his heart and still she hadn't mentioned it.

As he plodded toward his dorm he thought rather sarcastically, *Heart—Aren't you going to give me any advice?*

You're being childish, Lagrad. You're still brooding about the times I've tried to help you with suggestions. Really, Lagrad. What is the sense of my waiting for you to think a long time about something? When my knowledge and wisdom are yours, you will eventually arrive at the same conclusions I do.

Because I want to feel free to think. Only today you told me to plan the 6:00 meeting with Beodora so I could propose to her. I wasn't even given the chance to think about it . . .

If you're so worried about your future employment—you really shouldn't be. Things will work out. I still suggest you go back to the Ponds now and wait for Beodora. Propose today. . .

So you still suggest it. But what if I don't want to? Regardless of your feelings, I'm not going to talk to Beodora about marriage or anything else for that matter. She has deceived me . . .

Lagrad walked faster toward his dorm.

His heart was silent.

Lagrad began to tremble.

What's happening, heart? What are you doing?

I'm disturbed, Lagrad. That is all.

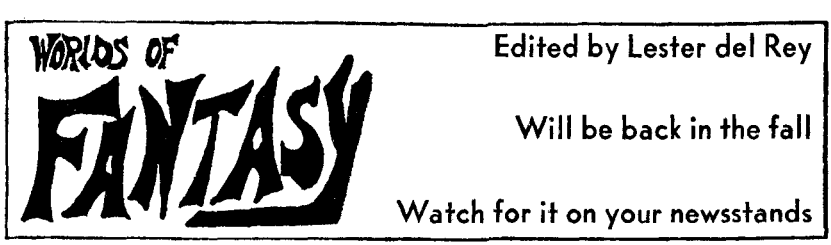
The voice of his heart rumbled through him, as dark as rivers of oil.

I think it's to your best interest that you return to the Ponds and talk with Beodora. You must propose. . .

You are threatening me, heart. You are threatening me by making my body tremble. . .

No. I'm disturbed, so you're disturbed too. Physical functional reactions. . .

No! You're intimidating me,



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threatening me. I won't stand for that. . .

His heart boomed.

You're foolish, Lagrad. Do what I say. I'm you and you are me. . .

That is not true. You're always saying that, just like Beodora. . .

Between flashes of pain brought by his heart, Lagrad thought of Beodora, beginning to wonder, to suspect.

Return to the Ponds and talk to Beodora.

No. . .

SUDDENLY A loud rushing static struck Lagrad's mind. At once the quivering in his arms extended to all his limbs, his stomach, his groin. His knees buckled and the green grass carpet under him spun up to hit his face. He lay unmoving on the grass.

Get up and go back to wait for her. . .

No. I'm your slave if I do. . . both of us. All I have to do is stop a valve. I shall cease functioning. . .

No. Not your slave. . .

Then die. . .

Blood, surging, softly bellowing. *No—I'm not your—*

A new gush of hot energy hit, exploded through all the fibers of Lagrad's body. A great star-sized light novaed somewhere inside him. Lagrad screamed and the pulp of his mind was thrown into darkness.

Now you'll go back and wait for Beodora. . .

Lagrad the man could not hear his heart but his body rose on wobbly legs and began walking back to the Ponds.

As Lagrad's body put one foot ahead of the other his heart enjoyed its new-found control of a human organism. His heart now had legs, eyes, fingers, organs of its own and all was proper.

Lagrad, the man, was aware of cottony grays, icy blacks and fire reds, as he whimpered in the multiple wombs of his racial unconscious. At last free of those responsibilities of limbs and eyes, ears and heart, Lagrad slept, floating in a prenatal gelatin of the psyche, thinking of nothing but dreaming and dreaming of nothing but dreams.

When Beodora stepped up to Lagrad in the evening mist by their Ponds, Lagrad's heart looked with its new-found eyes into the faraway look in Beodora's eyes, savored the thought of a marriage night soon to come and spoke with its recently conquered lips.

Hello, Beodora. My heart is with you. . .

Beodora P'Att'ann stared into Lagrad's eyes and smiled as she saw their new faraway look.

"Hello, Heart. . ."

My heart has always been with you, her heart added with lips mastered two years before.

—BRUCE MCALLISTER

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I AM CRYING ALL INSIDE

by CLIFFORD D. SIMAK

This story is not about anyone we like. How about you?

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I DO MY job, which is hoeing corn. But I am disturbed by what I hear last night from this Janglefoot. Me and lot of other people hear him. But none of the folk would hear. He careful not to say what he say to us where any folk would hear. It would hurt their feeling.

Janglefoot he is traveling people. He go up and down the land. But he don't go very far. He often back again to orate to us again. Although why he say it more than once I do not understand. He always say the same.

He is Janglefoot because one foot jangle when he walk and he won't let no one fix it. It make him limp but he won't let no one fix it. It is humility he has. As long as he limp and jangle he is humble people and he like humility. He think it is a virtue. He think that it become him.

Smith, who is blacksmith, get impatient with him. Say he could fix the foot. Not as good as mechanic people, although better than not fixing it at all. There is a mechanic people not too far away. They impatient with him too. They think him putting on.

Pure charity of Smith to offer fix the foot. Him have other work. No need to beg for it like some poor people do. He hammer all the time on metal, making into sheet, then send on to mechanic people who use it for repair. Must be very careful keep in good repair. Must do it all ourself. No folk left who know how to do it. Folk left, of course, but too elegant to do it. All genteel who left. Never work at all.

I am hoeing corn and one of house people come down to tell me there is snakes. House people never work outdoors. Always come to us. I ask real snake or moonshine snake and they say real snake. So I lean my hoe on tree and go up hill to house.

Grandpa he is in hammock out on front lawn. Hammock is hung between two trees. Uncle John he is sitting on ground, leaning on one tree. Pa he is sitting on ground, leaning on other tree.

Sam, say Pa, there is snake in back.

So I go around house and there is timber rattler and I pick him up and he is mad at me and and hammer me real good. I hunt around and find another rattler and a moccasin and two garter snake. Garter snakes sure don't amount to nothing, but I take them along. I hunt some more but that is all the snakes.

I go down across cornfield and wade creek and way back into swamp. I turn snakes loose. Will take them long time to get back. Maybe not at all.

Then I go back to hoeing. Important to keep patch of corn in shape. No weeds. Carry water when it needs. Soil work up nice and soft. Scare off crows when

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plant. Scare off coon and deer when corn come into ear. Full time job, for which many thanks. Also is important. George use corn to make the moon. Other patches of corn for food. But mine is use for moon. Me and George is partners. We make real good moonshine. Grandpa and Pa and Uncle John consume it with great happy. Any left over boys can have. But not girls. Girls don't use moonshine.

I do not understand use of food and booze. Grandpa say it taste good. I wonder what is taste. It make Uncle John see snakes. I do not understand that either.

I AM HOEING corn when there is sound behind me. I look and there is Joshua. He is reading Bible. He always reading Bible. He make big job of it. Also he is stepping on my hills of corn. I yell at him and run at him. I hit him with the hoe. He run out of patch. He know why I hit him. I hit him before. He know better than stepping on the corn. He stand under tree and read. Standing in the shade. That is putting on. Only folk need to stand in shade. People don't.

Hitting him, I break my hoe. I go to Smith to fix. Smith he glad to see me. Always glad to see each other. Smith and me are friend. He drop everything to fix hoe. Know how important corn is. Also do me favor.

We talk of Janglefoot. We agree is wrong the way he speak. He speak heresy. (Smith he tell me that word. Joshua, once he get unmad at me for hitting him, look up how to spell.) We agree, Smith and me, folk are genteel folk, not kind said by Janglefoot. Agree something should be done to Janglefoot. Don't know what to do. We say we think more of it.

George come by. Say he need me. Folk out of drinking likker. So I go with him while Smith is fixing hoe. George he has nice still, real neat and clean. Good capacity. Also try hard to age moonshine but never able to. Folk use it up too fast. He have four five-gallon jugs. We each take two and walk to house.

We stop at hammock where three still are. Tell us leave one jug there, take three to woodshed, put away, bring back some glasses. We do. We pour out glasses of moonshine for Grandpa and Pa. Uncle John he says never mind no glass for him, just put jug beside him. We do, leaving it uncork. Uncle John reach in pocket and bring out little rubber hose. Put one end in jug, other end in mouth. He lean back against tree and start sucking.

They make elegant picture. Grandpa look peaceful. Rocking in hammock with big glass of moon balance on his chest. We happy to see them happy. We

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go back to work. Smith has hoe fix and very sharp. It handle good. I thank him.

He say he still confuse at Janglefoot. Janglefoot claim he read what he say. In old record. Found record in old city far away. Smith ask if I know what city is. I say I don't. We more confuse than ever. For that matter, don't know what record is. Sound important, though.

I AM HOEING corn when the Preacher pass and stop. Joshua gone somewhere. I tell him should have come sooner, Joshua standing under tree, reading Bible. He say Joshua only reading Bible, he interpret it. I ask him what interpret is. He tell me. I ask him how to spell it. He tell me. He know I try to write. He is helpful people. But pompous.

Night come on and moon is late to rise. Can no longer hoe for lack of seeing. So lean hoe against tree. Go to still to help George now making moonshine. George is glad of help. He running far behind.

I wonder to him why Janglefoot say same thing over and over. He say is repetition. I ask him repetition. He not sure. Say he think you say thing often enough people will believe it. Say folk use it in olden day. Make other folk believe thing that isn't so.

I ask him what he know of olden day. He say not very much. He say he should remember, but he doesn't. I should remember too, but I can't remember. Too long ago. Too much happen since. It is not important except for what Janglefoot is saying.

George has good fire burning under still and it shine on us. We stand around and watch. Make good feeling in the gizzard. Owl talk long way off in swamp. Do not know why fire feel good. No need of warm. Do not know why owl make one feel lonesome. I no lonesome. Got George right here beside me. There is so many things I do not know. What city is or record. What taste is. What olden day is like. Happy, though. Do not need to understand for happy.

People come from house, running fast. Say Uncle John is sick. Say he need doctor. Say he no longer seeing snakes. Seeing now blue alligator. With bright pink spots. Uncle John must be awful sick. Is no blue alligator. Not with bright pink spots.

George say he go to house to help, me run for Doc. George and house people leave, going very fast. I leave for Doc, also going fast.

Finally find Doc in swamp. He has candle lantern and is digging root. He always digging root. Great one for root and bark. He make stuff out of them for repairing folk. He is folk mechanic.

He standing in muck, up to

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knee. He cover with mud. He is filthy people. But he feel bad, hearing Uncle John is sick. Do not like blue alligator. Next he say is purple elephant and that is worst of all.

We run, both of us. I hold lantern at alligator hole while Doc wash mud off him. Never do to let folk seeing him filthy. We go to hut where Doc keep root and bark. He get some of it and we run for house. Moon has come up now, but we keep lantern. It help moonlight some.

We come to foot of hill with house on top of hill. All lawn between foot of hill and house. All lawn except for trees that hold up hammock. Hammock still is there, but empty. It blow back and forth in breeze. House stand up high and white. Windows in it shining.

Grandpa sit on big long porch that is in front of house, with white pillars to hold up roof. He sit in rocking chair. He rock back and forth. Another rocking chair beside him. He is only one around. Can see no one else. Inside of house women folk is making cries. Through tall window I can see inside. Big thing house people call chandelier hang from ceiling. Made of glass. Many candles in it. Candles all are burning. Glass look pretty in light. Furniture in room gleam with light. All is clean and polish. House people work hard to keep it clean and polish. Take big pride.

We run up steps to porch.

Grandpa say, you come too late. My son John is dead.

I do not understand this dead. When folk dead put them into ground. Say words over them. Put big stone at their head. Back of house is special place for dead. Lot of big stones standing there. Some new. Some old. Some so old cannot read lettering that say who is under them.

Doc run into house. To make sure Grandpa say right, perhaps. I stay on porch, unknowing what to do. Feel terrible sad. Don't know why I do. Except knowing dead is bad. Maybe because Grandpa seem so sad.

Grandpa say to me, Sam sit down and talk.

I do not sit, I tell him. People always stand.

It was outrage of him to ask it. He know custom. He know as well as I do people do not sit with folk.

God damn it to hell, he say, forget your stubborn pride. Sitting is not bad. I do it all the time. Bend yourself and sit.

In that chair, he say, pointing to one beside him.

I look at chair. I wonder will it hold me. It is built for folk. People heavier than folk. Have no wish to break a chair with weight. Take much time to make

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one. Carpenter people work for long to make one.

But I think no skin off my nose. Skin off Grandpa's nose. He the one that tell me.

So I square around so I hit the chair and bend myself and sit. Chair creak, but hold. I settle into it. Sitting feel good. I rock a little. Rocking feel good. Grandpa and me sit, looking out on lawn. Lawn is real pretty. Moonlight on it. First lawn and then some trees and after trees cornfield and other fields. Far away owl talk in swamp. Coon whicker. Fox bark long way off.

It do beat hell, say Grandpa, how man can live out his life, doing nothing, then die of moonshine drinking.

You sure of moon, I ask. I hate to hear Grandpa blaming moonshine. George and me, we make real good moonshine.

Grandpa say, it couldn't be nothing else. Only moonshine give blue alligator with bright pink spots.

No purple elephant, so say Grandpa.

I wonder what elephant might be. So much that I don't know.

Sam, say Grandpa, we a sorry lot. Never had no chance. Neither you nor us. Ain't none of us no good. We folk sit around all day and never do a thing. Hunt a little, maybe. Fish a little. Play cards. Drink likker. Feel real energetic, maybe I'll play some horseshoe. Should be out doing something good and big. But we never are. While we live we don't amount to nothing. When we die we don't amount to nothing. We're just no God damn good.

He went on rocking, bitter. I don't like the way he talk. He feel bad, sure, but no excuse to talk the way he was. Elegant folk like him shouldn't talk that way. Lay in hammock all day long, shouldn't talk that way. Balance moonshine on his chest, shouldn't talk that way. I uncomfortable. Wish to get away, but impolite to leave.

DOWN AT bottom of hill, where lawn begin, I see many people. Standing, looking up at house. Pretty soon come slow up lawn and look closer at house. Saying nothing, just standing. Paying their respect. Letting folk know that they sorrow too.

We never was *nothing but white* trash, say Grandpa. I can see it now. Seen it for long, long time but could never say it. I can say it now. We live in swamp in houses falling down. Falling down because we got no gumption to take care of them. Hunt and fish a little. Trap a little. Farm a little. Sit around and cuss because we ain't got nothing.

Grandpa, I say. I want him to stop. I don't want to hear. Don't want him to go on saying what Janglefoot been saying.

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But he pay me no attention. He go on saying.

Then, long, long ago, he say, they learn to go in space very, very fast. Faster than the light. Much faster than the light. They find other worlds. Better than the Earth. Much better worlds than this. Lot of ships to go in. Take little time to go there. So everybody go. Everyone but us. Folk like us, all over the world, are left behind. Smart ones go. Rich ones go. Hard workers go. We are left behind. We aren't worth the taking. No one want us on this world. Have no use for us on others. They leave us behind, the misfits, the loafers, the poor, the crippled, the stupid. All over the world these kind are left behind. So when they all are gone, we move from shacks to houses the rich and smart ones lived in. No one to stop us from doing it. All of them are gone. They don't care what we do. Not any more they don't. We live in better houses, but we do not change. There is no use to change even if we could. We got you to take care of us. We have got it made. We don't do a God damn thing. We don't even learn to read. When words are read over my son's grave, one of you will read them, for we do not know how to read.

Grandpa, I say. Grandpa. Grandpa. Grandpa. I feel crying inside. He had done

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it now. He had took away the elegant. Took away the pride. He do what Janglefoot never could.

Now, say Grandpa, don't take on that way. You got no reason to be prideful either. You and us we are the same. Just no God damn good. There were others of you and they took them along. But you they left behind. Because you were out of date. Because you were slow and awkward. Because you were heaps of junk. Because they had no need of you. They wouldn't give you room. They left both you and us because neither of us was worth the room we took.

Doc came out of door fast and purposeful. He say to me I got work for you to do.

All the other people coming up the lawn, saying nothing, slow. I try to get out of chair. I can't. For first time I can't do what I want. My legs is turned to water.

Sam, say Grandpa, I am counting on you.

When he say that, I get up. I go down steps. I go out on lawn. No need for Doc tell me what to do. I done it all before.

I TALK TO other people. I give jobs to do. You and you dig grave. You and you make coffin. You and you and you and you run to other houses. Tell all the folk Uncle John is dead. Tell them come to funeral. Tell them funeral elegant. Much to cry, much to eat, much to drink. You get Preacher. Tell him fix sermon. You get Joshua to read the Bible. You and you and you go and help George make moonshine. Other folk be coming. Must be elegant.

All done. I walk down the lawn. I think on pride and loss. Elegant is gone. Shiny wonder gone. Pride is gone. Not all pride, however. Kind of pride remain. Hard and bitter pride. Grandpa say Sam sit down and talk. Grandpa say Sam I counting on you. That is pride. Hard pride. Not soft and easy pride like it was before. Grandpa need me.

No one else will know. Grandpa never bring himself again to tell what he tell me. Secret between us. Secret born of sad. Life of others need not change. Go on thinking same. Janglefoot no trouble. No one believe Janglefoot if he talk forever. No one ever know that he tell the truth. Truth is hard to take. No one care except for what we have right now. We go on same.

Except I who know. I never want to know. I never ask to know. I try not to know. But Grandpa won't shut up. Grandpa have to talk. Time come man will die if he cannot talk. Must make clean breast of it. But why to me? Because he love me most, perhaps. That is prideful thing.

But going down the lawn, I crying deep inside.

—CLIFFORD D. SIMAK

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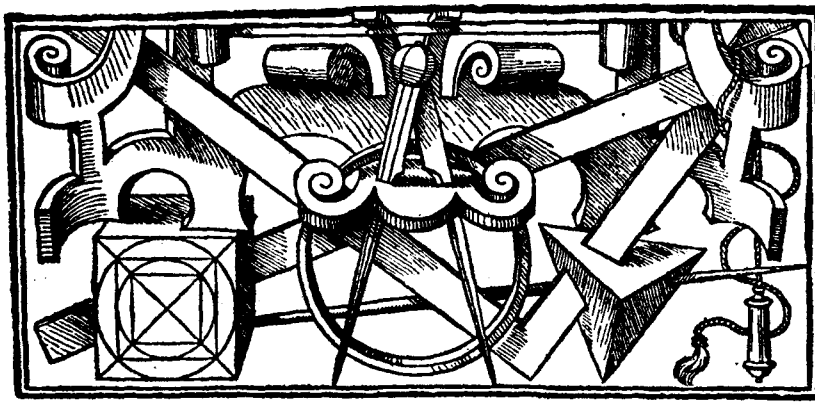

FOR YOUR INFORMATION

by Willy Ley

IN CLASSICAL mythology Jupiter abducted and seduced the fair maiden Europa; in current reality the Europeans are thinking hard about a practical way of invading the privacy of Jupiter—the planet, that is. Preliminary plans for a space probe to Jupiter have just been published in West German technical journals. The mission to Jupiter is meant to become a project of ESRO (European Space Research Organization), possibly in cooperation with NASA.

Since Jupiter orbits the sun at a distance of 483.3 million miles (or 5.2 times as far as the earth is from the sun) this is quite an ambitious project. But the Europeans have to think up ambitious or at least novel projects, just because they have done so little in space so far. Everything "obvious," like sending space probes to the moon and to the neighboring planets Venus and Mars has been done by the United States as well as by the Soviet Union. It would be difficult to think up an earth-orbiting satellite that can do something that has not been done by existing American, British, Canadian, French or Russian satellites.

Of course there are still a number of possibilities. One could send a space probe sunward to take up a reasonably circular orbit around the sun at a distance of about 11 million miles. Such an orbit would make the probe

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Dune Messiah

by Frank Herbert

WHAT HAS GONE BEFORE

Dune was an arid planet, inhabited by gigantic sandworms and wild Fremen whose customs were based on water scarcity. Its only useful product was melange, an addictive drug produced by the worms. This "spice" somehow aided longevity and gave an adept visions of the future.

PAUL ATREIDES, scion of a noble house, was dumped into the desert after the murder of his father. With the young boy was his pregnant mother, the LADY JESSICA, who had been trained in the arts of the Bene Gesserit—a female order devoted to mental discipline and the control of human genetic lines to produce a "kwisatz haderach," a messiah capable of fully using extrasensory powers. Under their training, Paul was supposed to lead them to this ideal.

In learning to live with the Fremen, Paul was forced to take an overdose of spice in one of their rituals. He emerged with amazing knowledge of the future—or futures. The Lady Jessica also took an overdose, with the result that ALIA, Paul's sister, was born with full knowledge of all her mother had known.

Paul rose to leadership and eventually led the Fremen against his ancient enemies, the Harkonnen rulers and their Sardaukar soldiers. In a bitter battle during which his friend and teacher, DUNCAN IDAHO, was killed,

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Paul defeated them. He became ruler, taking the Harkonnen heir, PRINCESS IRULAN, as his consort. But he refused to consummate the marriage, remaining with his desert mate, the Fremen woman CHANI.

Now, twelve years later, Paul rules a mighty empire of stars and has become the god-like center of a religion built around his visions and the legends growing out of it. This Qizarate is the official religion of all his empire. And against it the other quasi-political, quasi-religious forces of humanity have just begun to organize.

Among these is the Bene Gesserit, which is headed by the Reverend Mother GAIUS HELEN MOHIAM. They have lost control of Paul and his mother and must depend on the weak help of their trainee, Princess Irulan. Allied with them more or less is the Bene Tleilax, supposedly amoral scientists; the Tleilaxu representing them is SCYTALE, a "face dancer" who can shape himself to look like any man or woman. These two groups have enlisted the aid of the Spacing Guild, which must control the melange trade, since only spice visions permit navigating between the stars. The Guild is represented by EDRIC, a Steersman who is more fishlike than human and must live in a tank. His main function now is to use his own touch against the future to obscure Paul's vision so their plotting will not be detected.

Princess Irulan is sent back to Paul, instructed to keep giving Chani a drug that induces sterility and to seduce Paul into giving her an heir—something she desperately wants. Chani advises Paul to give in to her. But Paul refuses. He is bitter and disturbed, troubled by his visions which are uncertain but indicate that he may be the very instrument of doom which he is trying to avoid for the future. He is sure, however, that having an heir to the throne by Irulan will destroy all his hopes.

The conspirators send a ship to Paul's Keep on the plains of Arakeen. Paul quickly detects the presence of the Reverend Mother Mohiam on board and has her arrested. But there are others on the ship. Scytale has also come, along with BIJAZ, a mutant dwarf who is the product of Tleilaxu life science.

Scytale secretly visits a Fremen who once served in Paul's army but is now old and bitter. From the old man, Scytale learns all he can. Then he betrays the Fremen and makes off with a girl from the neighborhood who has been brain-burned and addicted to the semuta drug.

Meantime, Edric remains with his ship. He offers Paul a present from the Guild.

The present is something of a shock. It looks rather like Duncan Idaho—alive and unharmed, save that his eyes have been replaced by metal ones. Edric says it is a ghola—a product of Tleilaxu genius. The body of Idaho was rescued and carefully regrown

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from its cell patterns, though all memories vanished with death.

Paul is disturbed by HAYT, as the ghola is now named. He cannot understand why his visions had showed no Duncan Idaho in his future. He asks the ghola, who answers quite candidly. "I have been sent to destroy you."

But the ghola does not know how. He tells Paul to send him away—but Paul cannot do that to what had once been so close to him.

VI

Truth suffers from too much analysis.

—Ancient Fremen Saying

"REVEREND MOTHER, I sigh to see you in such circumstances," Irulan said.

She stood just inside the cell door, measuring with care the various capacities of the room in her Bene Gesserit way. It was a three-meter cube carved with cutterays from the veined brown rock beneath Paul's Keep. For furnishings, it contained one flimsy basket chair occupied now by the Reverend Mother Gaius Helen Mohiam, a pallet with a brown cover upon which had been spread a deck of the new Dune tarot cards, a metered water tap above a reclamation basin and a Fremen privy with moisture seals. It was all sparse, primitive. Yellow light came from anchored and caged glowglobes at the four corners of the ceiling.

"You've sent word to the Lady Jessica?" the Reverend Mother asked.

"Yes, but I don't expect her to lift one finger against her firstborn," Irulan said. She glanced at the cards. They spoke of the powerful turning their backs on supplicants. The card of the Great Worm lay beneath Desolate Sand. Patience was counseled. *Did one require the tarot to see this?* she asked herself.

A guard stood outside watching them through a metaglass window in the door. Irulan knew there'd be other monitors on this encounter. She had put in much thought and planning before daring to come here. To have stayed away carried its own perils, though.

The Reverend Mother had been engaged in prajna meditation interspersed with examinations of the tarot. Despite a feeling that she would never leave Arrakis alive, she had achieved a measure of calm through this. One's oracular powers might be small, but muddy water was muddy water. And there was always the Litany against Fear.

She had yet to assimilate the import of the actions which had precipitated her into this cell. Dark suspicions brooded in her mind and the tarot hinted at confirmations. Was it possible the Guild had planned this?

A yellow-robed Qizara, head shaved for a turban, beady eyes of total blue in a bland round face, skin leathered by the wind and sun of Arrakis, had awaited her on the heighliner's reception

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bridge. He had looked up from a bulb of spice coffee being served by an obsequious steward, studied her a moment, put down the coffee bulb.

"You are the Reverend Mother Gaius Helen Mohiam?"

To replay those words in her mind was to bring that moment alive in the memory. Her throat had constricted with an unmanageable spasm of fear. How had one of the Emperor's minions learned of her presence on the heighliner?

"It came to our attention that you were aboard," the Qizara said. "Have you forgotten that you are denied permission to set foot on the holy planet?"

"I am not on Arrakis," she said. "I'm a passenger on a Guild heighliner in free space."

"There is no such thing as free space, Madame."

She read hate mingled with profound suspicion in his tone.

"Muad'dib rules everywhere," he said.

"Arrakis is not my destination," she insisted.

"Arrakis is the destination of everyone," he said. And she feared for a moment that he would launch into a recital of the mystical itinerary which pilgrims followed. This very ship had carried thousands of them.

BUT THE Qizara had pulled a golden amulet from beneath his robe, kissed it, touched it to his forehead and placed it to his right ear to listen. Presently, he restored the amulet to its hidden place.

"You are ordered to gather your luggage and accompany me to Arrakis."

"But I do have other business elsewhere!"

In that moment, she suspected Guild perfidy . . . or exposure through some transcendant power of the Emperor or his sister. Perhaps the Steersman did not conceal the conspiracy, after all. The abomination, Alia, certainly possessed the abilities of a Bene Gesserit Reverend Mother. What happened when those powers were coupled with the forces which worked in her brother?

"At once!" the Qizara snapped.

Everything in her cried out against setting foot once more on that accursed desert planet. Here was where the Lady Jessica had turned against the Sisterhood. Here was where they'd lost Paul Atreides, the kwisatz haderach they had sought through many long generations of careful breeding.

"At once," she agreed.

"There's little time," the Qizara said. "When the Emperor commands, all his subjects obey."

So the order had come from Paul!

She thought of protesting rather vigorously to the heighliner's Navigator-Commander but the futility of such a gesture stopped her. What could the Guild do?

"The Emperor has said I must die if I set foot on Dune," she said, making a last desperate effort. "You spoke of this yourself. You are condemning me if you take me down there."

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"Say no more," the Qizara ordered. "The thing is ordained."

That was how they always spoke of Imperial commands, she knew. *Ordained!* The holy ruler whose eyes could pierce the future had spoken. What must be must be. He had seen it, had He not?

With the sick feeling that she was caught in a web of her own spinning, she had turned to obey.

And the web had become a cell which Irulan could visit. She suddenly saw that Irulan had aged somewhat since their meeting on Wallach IX. New lines of worry spread from the corners of her eyes. Well . . . time to see if this Sister of the Bene Gesserit could obey her vows.

"I've had worse quarters," the Reverend Mother said. "Do you come from the Emperor?" And she allowed her fingers to move as though in agitation.

Irulan read the moving fingers and her own fingers flashed an answer as she spoke, saying: "No—I came as soon as I heard you were here."

"Won't the Emperor be angry?" the Reverend Mother questioned her. Again, her fingers moved: imperative, pressing, demanding.

"Let him be angry. You were my teacher in the Sisterhood, just as you were the teacher of his own mother. Does he think I will turn my back on you as she has done?" And Irulan's finger-talk made excuses, begged.

THE REVEREND MOTHER sighed. On the surface, it was the sigh of a prisoner bemoaning her fate, but inwardly she felt the response as a comment on Irulan. It was futile to hope the Atreides Emperor's precious gene pattern could be preserved through this instrument. No matter her beauty, this Princess was flawed. Under that veneer of sexual attraction lived a whining shrew more interested in words than in actions. Irulan was still a Bene Gesserit, though, and the Sisterhood had always reserved certain techniques to use on some of its weaker vessels as insurance that vital instructions would be carried out.

Beneath small talk about a softer pallet and better food, the Reverend Mother brought up her arsenal of persuasion and gave her orders: the brother-sister crossbreeding must be explored.

Irulan almost broke at receiving this command. "I must have my chance!" Irulan's fingers pleaded.

"You've had your chance," the Reverend Mother countered. And she was explicit in her instructions: Was the Emperor ever angry with his concubine? His unique powers must make him lonely. To whom could he speak in any hope of being understood? To the sister, obviously. They shared this loneliness. The depth of their communion must be exploited. Opportunities must be created to throw them together in privacy. Intimate encounters must be arranged. The possibility of eliminating the concubine must be explored. Grief somehow dissolved traditional barriers.

Irulan protested. If Chani were

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killed, suspicion would fall immediately upon the Princess-Consort. Besides, there were other problems. Chani had fastened upon an ancient Fremen diet supposed to promote fertility and the diet eliminated all opportunity for administering the contraceptive drugs. Lifting the suppressives would make Chani even more fertile.

The Reverend Mother was outraged and concealed it with difficulty while her fingers flashed their demands. Why had this information not been conveyed at the beginning of their conversation? How could Irulan be that stupid? If Chani conceived and bore a son, the Emperor would declare the child his heir!

Irulan protested that she understood the dangers, but the genes might not be totally lost.

Damn such stupidity! the Reverend Mother raged. Who knew exactly what suppressions and genetic entanglements Chani might introduce from her wild Fremen strain? The Sisterhood must have only the pure line! And an heir would renew Paul's ambitions, spur him to new efforts in consolidating his Empire. The conspiracy could not afford such a setback.

Defensively, Irulan wanted to know how she could have prevented Chani from trying this diet?

But the Reverend Mother was in no mood for excuses. Irulan received explicit instructions now to meet this new threat. If Chani conceived, an abortifact must be introduced into her food or drink. Either that, or she must be killed. An heir to the throne from that source must be prevented at all costs.

An abortifact would be as dangerous as an open attack on the concubine, Irulan objected. She trembled at the thought of trying to kill Chani.

Was Irulan deterred by danger? The Reverend Mother wanted to know, her finger-talk conveying deep scorn.

Angered, Irulan signaled that she knew her value as an agent in the royal household. Did the conspiracy wish to waste such a valuable agent? Was she to be thrown away? In what other way could they keep this close a watch on the Emperor? Or had they introduced another agent into the household? Was that it? Was she to be used now, desperately, and for the last time?

IN A WAR, all values acquired new relationships, the Reverend Mother countered. Their greatest peril was that House Atreides should secure itself with an Imperial line. The Sisterhood could not take such a risk. This went far beyond the danger to the Atreides genetic pattern. Let Paul anchor his family to the throne and the Sisterhood could look forward to centuries of disruption for its programs.

Irulan understood the argument, but she couldn't escape the thought that a decision had been made to spend the Princess-Consort for something of great

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value. Was there something she should know about the ghola?

The Reverend Mother wanted to know if Irulan thought the Sisterhood composed of fools. When had they ever failed to tell Irulan all she *should* know?

It was no answer, but an admission of concealment, Irulan saw. It said she would be told no more than she needed to know.

How could they be certain the ghola was capable of destroying the Emperor?

She could just as well have asked if melange were capable of destruction, the Reverend Mother countered.

It was a rebuke with a subtle message, Irulan soon realized. For the Bene Gesserit "whip that instructs" informed her that she should have understood long ago this similarity between the spice and the ghola. Melange was valuable, but it exacted a price—addiction. It added years to a life—decades for some—but it was still just another way to die.

The ghola was something of deadly value.

The obvious way to prevent an unwanted birth was to kill the prospective mother before conception, the Reverend Mother signaled, returning to the attack.

Of course, Irulan thought. *If you decide to spend a certain sum, get as much for it as you can.*

The Reverend Mother's eyes, dark with the blue brilliance of her melange addiction, stared up at Irulan, measuring, waiting, observing minutiae.

She reads me clearly, Irulan thought with dismay. *She trained me and observed me in that training. She knows I realize what decision has been taken here. She only observes now to see how I will take this knowledge. Well, I will take it as a Bene Gesserit and a princess.*

Irulan managed a smile, pulled herself erect and thought of the evocative opening passage of the Litany Against Fear—

"I must not fear. Fear is the mind-killer. Fear is the little-death that brings total obliteration. I will face my fear . . ."

When calmness had returned, she thought: *Let them spend me. I will show them what a princess is worth. Perhaps I'll buy them more than they expected.*

After a few more empty vocalizations to bind off the interview, Irulan departed.

When she had gone, the Reverend Mother returned to her tarot cards, laying them out in the familiar fire-eddy pattern. Immediately, she got the Kwisatz Haderach of the Major Arcana and the card lay coupled with the Eight of Ships: the sybil hoodwinked and betrayed. These were not cards of good omen: they spoke of concealed resources for her enemies.

She turned away from the cards, sat in agitation, wondering if Irulan might yet destroy them.

VII

The Fremen see her as the Earth Figure, a demi-goddess whose special charge is to protect

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the tribes through her powers of violence. She is Reverend Mother to their Reverend Mothers. To Pilgrims who seek her out with demands that she restore virility or make the barren fruitful, she is a form of antimentat. She feeds on that strong human desire for the mysterious. She is living proof that the "analytic" has limits. She represents ultimate tension. She is the virgin-harlot—witty, vulgar, cruel, as destructive in her whims as a coreolis storm.

—St. Alia of the Knife
as taken from the Irulan report.

ALIA STOOD like a black-robed sentinel figure on the south platform of her temple, the Fane of the Oracle which Paul's Fremen cohorts had built for her against a wall of his stronghold.

She hated this part of her life, but knew no way to evade the temple without bringing down destruction upon them all. The Pilgrims (damn them!) grew more numerous every day. The temple's lower porch was crowded with them. Vendors moved among the Pilgrims, and there were minor sorcerers, haruspices and diviners, all working their trade in pitiful imitation of Paul Muad'dib and his sister.

Red and green packages containing the new Dune tarot were prominent among the vendors' wares, Alia saw. She wondered about the tarot. Who was feeding this into the Arrakeen market? Why had the tarot come to prominence at this particular time and place? Could it be to muddy Time? Spice addiction always conveyed some sensitivity to prediction. Fremen were notoriously fey. Was it an accident that so many of them dabbled in portents and omens here and now? She decided to seek an answer at the first opportunity.

There was a wind from the southeast, a small leftover wind blunted by the scarp of the Shield Wall which loomed high in these northern reaches. The rim glowed orange through a thin dust haze underlighted by the late afternoon sun. It was a hot wind against her cheeks and it made her homesick for the sand, for the security of open spaces.

The last of the day's mob began descending the broad greenstone steps of the lower porch, singly and in groups, a few pausing to stare at the keepsakes and holy amulets on the street vendors' racks, some consulting one last minor sorcerer. Pilgrims, supplicants, townfolk, Fremen, vendors closing up for the day—they formed a straggling line that trailed off into the palm-lined avenue which led to the heart of the city.

Alia's eyes picked out the Fremen, marking the frozen looks of superstitious awe on their faces, the half wild way they kept their distance from the others. They were her strength and her peril. They still captured giant worms for transport, for sport and for sacrifice. They resented the off-world Pilgrims, barely tolerated the townfolk of graben and pan, hated the cynicism they saw in the street vendors. One did not

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jostle a wild Fremen, even in a mob such as the ones which swarmed to Alia's Fane. There were no knifings in the Sacred Precincts, but bodies had been found . . . later.

THE DEPARTING swarm had stirred up dust. The flinty odor came to Alia's nostrils, igniting another pang of longing for the open *bled*. Her sense of the past, she realized, had been sharpened by the coming of the *ghola*. There'd been much pleasure in those untrammeled days before her brother had mounted the throne—time for joking, time for small things, time to enjoy a cool morning or a sunset, time. . .time. . . time. . . Even danger had been good in those days—clean danger from known sources. No need then to strain the limits of prescience, to peer through murky veils for frustrating glimpses of the future.

Wild Fremen said it well: "Four things cannot be hidden—love, smoke, a pillar of fire and a man striding across the open bled."

With an abrupt feeling of revulsion, Alia retreated from the platform into the shadows of the Fane and strode along the balcony which looked down into the glistening opalescence of her Hall of Oracles. Sand on the tiles rasped beneath her feet. *Supplicants always tracked sand into the Sacred Chambers!* She ignored attendants, guards, postulants and the Qizarate's omnipresent priest-sycophants, and plunged into the spiral passage which twisted upward to her private quarters. There, amidst divans, deep rugs, tent hangings and mementos of the desert, she dismissed the Fremen amazons Stilgar had assigned as her own personal guardians. *Watchdogs, more likely!* When they had gone, muttering and objecting, but more fearful of her than they were of Stilgar, she stripped off her robe, leaving only the sheathed crysknife on its thong around her neck, strewed garments behind as she made for her bath.

He was near, she knew—that shadow-figure of a man she could sense in her future, but could not see. It angered her that no power of prescience could put flesh on that figure. He could be sensed only at unexpected moments while she scanned the lives of others. Or she came upon a smoky outline in solitary darkness when innocence lay coupled with desire. He stood just beyond an unfixed horizon, and she felt that if she strained her talents to an unexpected intensity she might see him. He was *there*—a constant assault on her awareness: fierce, dangerous, immoral.

Moist warm air surrounded her in the bath. Here was a habit she had learned from the memory-entities of all the many uncounted Reverend Mothers who were hazily strung out in her awareness like pearls on a glowing necklace. Water, warm water in a sunken tub, accepted her skin as she slid

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into it. Green tiles with figures of red fish worked into a sea pattern surrounded the water. Such an abundance of water occupied this space that a Fremen of old would have been outraged to see it used merely for washing human flesh.

He was near.

It was lust in tension with chastity, she thought. Her flesh desired a mate. Sex held no casual mystery for a Reverend Mother who had presided at the *sietch* orgies. The *tau* awareness of her *other-selves* could supply any detail her curiosity required. This feeling of nearness could be nothing other than flesh reaching for flesh.

Need for action fought lethargy in the warm water.

ABRUPTLY, ALIA climbed dripping from the bath and strode wet and naked into the training chamber which adjoined her bedroom. The chamber, oblong and skylighted, contained the gross and subtle instruments which toned a Bene Gesserit adept into what was a complete physical and mental awareness/preparedness. There were many mnemonic amplifiers, digit mills from Ix to strengthen and sensitize fingers and toes, odor synthesizers, tactility sensitizers, temperature gradient fields, pattern betrayers to prevent her falling into detectable habits, a few alpha-wave-response trainers, blink-synchronizers to tone abilities in analysis.

In ten-centimeter letters along one wall, written by her own hand in mnemonic paint, stood the key reminder from the Bene Gesserit creed:

"Before us, all methods of learning were tainted by instinct. We learned how to learn. Before us, those instinct-ridden researchers possessed a very limited attention span—often no longer than a single lifetime. Projects stretching across fifty or more lifetimes never occurred to them. The concept of total muscle/nerve training had not entered awareness."

As she moved into the training room, Alia caught her own reflection multiplied thousands of times in the crystal prisms of a fending mirror swinging in the heart of a target dummy. She saw the long sword waiting on its brackets against the target, and she thought: *Yes! I'll work myself to exhaustion—drain the flesh and clear the mind.*

The sword felt right in her hand. She slipped the crysknife from its sheath at her neck, held it sinister and tapped the activating stud with the sword tip. Resistance came alive as the aura of the target shield built up, pushing her weapon away.

Prisms glittered. And the target slipped to her left.

Alia followed with the tip of the long blade, thinking as she often did that the thing could almost be alive. But it was only servomotors and complex reflector circuits designed to lure the eyes away from danger, to confuse and teach. It was an instrument geared to react as she reacted, an anti-self which moved as she

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moved, balancing light on its prisms, shifting its target, offering its counter-blade.

Many blades appeared to lunge at her from the prisms, but only one was real. She countered the real one, slipped the sword past shield resistance to tap the target. A marker light came alive: red and glistening among the prisms . . .more distraction.

Again, the thing attacked, moving at one-marker speed now, just a bit faster than it had at the beginning.

She parried and, against all caution, moved into the danger zone, scored with the crysknife.

Two lights glowed from the prisms.

Again, the thing increased speed, moving out on its rollers, drawn like a magnet to the motions of her body and the tip of her sword.

Attack-parry-counter.

Attack-parry-counter . . .

SHE HAD four lights alive in there now, and the thing was becoming more dangerous, moving faster with each light, offering more areas of confusion.

Five lights.

Sweat glistened on her naked skin. She existed now in a universe whose dimensions were outlined by the threatening blade, the target, bare feet against the hard practice floor, hard senses/nerves/muscle—motion against motion.

Attack-parry-counter.

Six lights . . . seven . . .

Eight!

In a recess of her mind there grew a sense of urgency, a crying out against such wildness as this. The instrument of prisms and target could not think, feel caution or remorse. And it carried a real blade. To go against less defeated the purpose of such training. That attacking blade could maim and it could kill. But the finest swordsmen in the Imperium never went against more than seven lights.

Nine!

Alia experienced a sense of supreme exaltation. Attacking blade and target became blurs among blurs. She felt that the sword in her hand had come alive. She was an anti-target. She did not move the blade; it moved her.

Ten!

Eleven!

Something flashed past her shoulder, slowed at the shield aura around the target, slid through and tripped the detonating stud. The lights darkened. Prisms and target twisted their way to stillness.

Alia whirled, angered by the intrusion, but her reaction was thrown into tension by awareness of the supreme ability which had hurled that knife. It had been a throw just timed to exquisite nicety—just fast enough to get through the shield zone and not too fast to be deflected.

And it had touched a one-millimeter spot within an eleven-light target.

Alia found her own emotions and tensions running down in a manner not unlike that of the

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target dummy. She was not at all surprised to see who had thrown the knife.

Paul stood just inside the training room doorway, Stilgar three steps behind him. Her brother's eyes were squinted in anger.

Alia, growing conscious of her nudity, thought to cover herself, but found the idea amusing. What the eyes had seen could not be unseen. Slowly she replaced the sword in its sheath at her neck.

"I presume you know how dangerous that was," Paul said. He took his time reading the reactions on her face and body: the flush of her exertions coloring her skin, the wet fullness of her lips. There was a disquieting femaleness about her that he had never considered in his sister. He found it odd that he could look at a person who was this close to him and no longer recognize her in the identity framework which had seemed so fixed and familiar.

"That was madness," Stilgar rasped, coming up to stand beside Paul.

The words were angry, but Alia heard awe in his voice and saw it in his eyes.

"ELEVEN LIGHTS," Paul said, shaking his head.

"I'd have made it twelve if you hadn't interfered," she said. She began to pale under his close regard and added: "And why do the damned things have that many lights if we're not supposed to try for them?"

"A Bene Gesserit should ask the reasoning behind an open-ended system?" Paul asked.

"I suppose you never tried for more than seven!" she said, anger returning. His attentive posture began to annoy her.

"Just once," Paul said. "Gurney Halleck caught me on ten. My punishment was sufficiently embarrassing that I won't tell you what he did. And speaking of embarrassment . . ."

"Next time, perhaps you'll have yourselves announced," she said. She brushed past Paul into the bedroom, found a loose gray robe, slipped into it and began brushing her hair before a wall mirror. She felt sweaty, sad, a *post coitum* kind of sadness that left her with a desperate desire to bathe once more . . . and to sleep. "Why're you here?" she asked.

"My Lord," Silgar said. There was an odd inflection in his voice that brought Alia around to stare at him.

"We're here at Irulan's suggestion," Paul said, "as strange as that may seem. She believes, and information in Stil's possession appears to confirm it, that our enemies are about to make a major try for . . ."

"My Lord!" Stilgar said, his voice sharper.

As her brother turned, questioning, Alia continued to look at the old Fremen naib. Something about him now made her intensely aware that he was one of the primitives. Stilgar believed in a supernatural world very near him. It spoke to him in a simple pagan

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tongue, dispelling all doubts. The natural universe in which he stood was fierce, unstoppable, and it lacked the common morality of the Imperium.

"Yes, Stil," Paul said. "Do you want to tell her why we came?"

"This isn't the time to talk of why we came," Stilgar said.

"What's wrong, Stil?"

Stilgar continued to stare at Alia.

"Sire, are you blind?"

Paul turned back to his sister, a feeling of unease beginning to fill him. Of all his aides, only Stilgar dared speak to him in that tone, but even Stilgar measured the occasion by its need.

"This one must have a mate!" Stilgar blurted. "There'll be trouble if she's not wed, and that soon."

Alia whirled away, her face suddenly hot. *How did he touch me?* Bene Gesserit self-control had been powerless to prevent her reaction. How had Stilgar done that? He hadn't the power of the Voice. She felt dismayed and angry.

"Listen to the great Stilgar!" Alia said, keeping her back to them, aware of a shrewish quality in her voice and unable to hide it. "Advice to maidens from Stilgar, the Fremen!"

"As I love you both, I must speak," Stilgar said, a profound dignity in his tone. "I did not become a chieftain among the Fremen by being blind to what moves men and women together. One needs no mysterious powers for this."

PAUL WEIGHED Stilgar's meaning, reviewed what they had seen here and his own undeniable male reaction to his very own sister. Yes—there'd been a ruttish air about Alia, something wildly wanton. What had made her enter the practice floor in the nude? And risking her life in that foolhardy way! Eleven lights in the fencing prisms! That brainless automaton loomed in his mind with all the aspects of an ancient horror creature. Its possession was the shibboleth of this age, but it carried also the taint of old immorality. Once they had been guided by an artificial intelligence, computer brains. The Butlerian Jihad had ended that, but it hadn't ended the aura of aristocratic vice which enclosed such things.

Stilgar was right, of course. They must find a mate for Alia.

"I will see to it," Paul said. "Alia and I will discuss this later—privately."

Alia turned around, focused on Paul. Knowing how his mind worked, she realized she'd been the subject of a mentat decision, uncounted bits falling together in that human-computer analysis. There was an inexorable quality to this realization—a movement like the movement of planets. It carried something of the order of the universe in it, inevitable and terrifying.

"Sirs," Stilgar said, "perhaps we'd . . ."

"Not now!" Paul snapped. "We've other problems at the moment."

Aware that she dared not try

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to match logic with her brother, Alia put the past few moments aside, Bene Gesserit fashion, and said: "Irulan sent you?" She found herself experiencing menace in that thought.

"Indirectly," Paul said. "The information she gives us confirms our suspicion that the Guild is about to try for a sandworm."

"They'll try to capture a small one and attempt to start the spice cycle on some other world," Stilgar said. "It means they've found a world they consider suitable."

"It means they have Fremen accomplices!" Alia argued. "No offworlder could capture a worm!"

"That goes without saying," Stilgar said.

"No it doesn't," Alia said. She was outraged by such obtuseness. "Paul, certainly you . . ."

"The rot is setting in," Paul said. "We've known that for quite some time. I've never *seen* this other world, though, and that bothers me. If they . . ."

"*That* bothers you?" Alia demanded. "It means only that they've clouded its location with Steersmen the way they hide their sanctuaries."

Stilgar opened his mouth, closed it without speaking. He had the overwhelming sensation that his idols had admitted blasphemous weakness.

Paul, sensing Stilgar's disquiet, said: "We've an immediate problem! I want your opinion, Alia. Stilgar suggests we expand our patrols in the open bled and reinforce the sietch watch. It's just possible we could spot a landing party and prevent the . . ."

"With a Steersman guiding them?" Alia asked.

"They *are* desperate, aren't they?" Paul agreed. "*That* is why I'm here."

"What have they *seen* that we haven't?" Alia asked.

"Precisely."

ALIA NODDED, remembering her thoughts about the new Dune tarot. Quickly, she recounted her fears.

"Throwing a blanket over us," Paul said.

"By having adequate patrols," Stilgar ventured, "we might prevent the . . ."

"We prevent nothing . . . forever," Alia said. She didn't like the *feel* of the way Stilgar's mind was working now.

"We must count on their getting a worm," Paul said. "Whether they can start the melange cycle on another planet is a different question. They'll need more than a worm."

Stilgar looked from brother to sister. Out of ecological thinking that had been ground into him by sietch life, he grasped their meaning. A captive worm couldn't live except within a small bit of Arrakis—sand plankton, Little Makers and all. The Guild's problem was large, but not impossible. His own growing uncertainty lay in a different area.

"Then your visions do not detect the Guild at its work?" he asked.

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"Damnation!" Paul exploded.

Alia studied Stilgar, sensing the savage sideshow of ideas taking place in his mind. He was hung on a rack of enchantment. Magic! Magic! To glimpse the future was to steal terrifying fire from a sacred flame. It held the attraction of ultimate peril, souls ventured and lost. One brought back from the formless, dangerous distances something with form and power. But Stilgar was beginning to sense other forces, perhaps greater powers beyond that unknown horizon. His Queen Witch and Sorcerer Friend had already betrayed dangerous weaknesses.

"Stilgar," Alia said, fighting to hold him, "you stand in a valley between dunes. I stand on the crest. I see where you do not see. And, among other things I see mountains which conceal the distances."

"There are things hidden from you," Stilgar said. "This you've always said."

"All power is limited," Alia said.

"And danger may come from behind the mountains," Stilgar said.

"It's *something* on that order," Alia said.

Stilgar nodded, his gaze fastened on Paul's face. "But whatever comes from behind the mountains must cross the dunes."

VIII

The most dangerous game in the universe is to govern from an oracular base. We do not consider ourselves wise enough or brave enough to play that game. The measures detailed here for regulation in lesser matters are as near as we dare venture to the brink of government. For our purposes, we borrow a definition from the Bene Gesserit and we consider the various worlds as gene pools, sources of teachings and teachers, sources of the possible. Our goal is not to rule, but to tap these gene pools, to learn, and to free ourselves from all restraints imposed by dependency and government.

—The Orgy As a Tool of Statecraft
Chapter Three of The Steersman's Guide

"IS THAT where your father died?" Edric asked, sending a beam pointer from his tank to a jeweled marker on one of the relief maps adorning a wall of Paul's reception salon.

"That's the shrine of his skull," Paul said. "My father died a prisoner on a Harkonnen frigate in the sink below us."

"Oh, yes. I recall the story now," Edric said. "Something about killing the old Baron Harkonnen, his mortal enemy." Hoping he didn't betray too much of the abject terror which small enclosures such as this room imposed upon him, Edric rolled over in the orange gas, directing his gaze at Paul, who sat alone on a long divan of striped gray and black.

"My sister killed the Baron," Paul said, voice and manner dry,

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"just before the battle of Arrakeen."

And why, he wondered, did the Guild man-fish reopen old wounds in this place and at this time?

The Steersman appeared to be fighting a losing battle to contain his nervous energies. Gone were the languid fish motions of their earlier encounter. Edric's tiny eyes jerked here, there, questing and measuring. The one attendant who had accompanied him in here stood apart near the line of house-guards ranging the end wall at Paul's left. The attendant worried Paul—with his hulking, thick-necked, blunt and vacant face. The man had entered the salon, nudging Edric's tank along on its supporting field, walking with a strangler's gait, arms akimbo.

Scytale, Edric had called him. *Scytale, an aide.*

The aide's surface shouted *stupidity, but the eyes betrayed* him. They laughed at everything they saw.

"Your concubine appeared to enjoy the performance of the face dancers," Edric said. "It pleases me that I could provide that small entertainment. I particularly enjoyed her reaction to seeing her own features simultaneously repeated by the whole troupe."

"Isn't there a warning against Guildsmen bearing gifts?" Paul asked.

And he thought of the performance out there in the Great Hall. The dancers had entered in the costumes and guise of the Dune tarot, flinging themselves about in seemingly random patterns that devolved into fire eddies and ancient prognostic designs. Then had come the rulers—a parade of kings and emperors like faces on coins, formal and stiff in outline, but curiously fluid. And the jokes: a copy of Paul's own face and body, Chani repeated across the floor of the Hall, even Stilgar, who had grunted and shuddered while others laughed.

"But our gifts have the kindest intent," Edric protested.

"How kindly can you be?" Paul asked. "The ghola you gave us believes he was designed to destroy us."

"Destroy you, Sire?" Edric asked, all bland attention. "Can one destroy a god?"

STILGAR, ENTERING on the last words, stopped and glared at the guards. They were much farther from Paul than he liked. Angrily, *he motioned them closer.*

"It's all right, Stil," Paul said, lifting a hand. "Just a friendly discussion. Why don't you move the Ambassador's tank over by the end of my divan?"

Stilgar, weighing the order, saw that it would put the Steersman's tank between Paul and the hulking aide, much too close to Paul, but . . .

"It's all right, Stil," Paul repeated, and he gave the private hand signal which made the order an imperative.

Moving with obvious reluctance, Stilgar pushed the tank closer to Paul. He didn't like the feel of the container or the heavily perfumed smell of melange around

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it. He took up a position at the corner of the tank beneath the orbiting device through which the Steersman spoke.

"To kill a god," Paul said. "That's very interesting. But who says I'm a god?"

"Those who worship you," Edric said, glancing pointedly at Stilgar.

"Is this what you believe?" Paul asked.

"What I believe is of no moment, Sire," Edric said. "It seems to most observers, however, that you conspire to make a god of yourself. And one might ask if that is something any mortal can do . . . safely?"

Paul studied the Guildsman. Repellent creature, but perceptive, It was a question Paul had asked himself time and again. But he had seen more than enough alternate timelines to have knowledge of worse possibilities than that of accepting godhead for himself. Much worse. These were not, however, the normal avenues for a Steersman to probe. Curious. Why had that question been asked? What could Edric hope to gain by such effrontery? Paul's thoughts went *flick* (The association of Tleilaxu would be behind this move) *flick* (The Jihad's recent Semoub victory would bear on Edric's action) *flick* (Certainly various Bene Gesserit credos have already showed themselves here) *flick* . . .

A process involving thousands of information bits poured flickering through his computational awareness. It required perhaps three seconds, no more.

"Does a Steersman question the guidelines of prescience?" Paul asked, putting Edric on the weakest ground.

This disturbed the Steersman, but he covered well, coming up with what sounded like a long aphorism: "No man of intelligence questions the fact of prescience, Sire. Oracular vision has been known to men since most ancient times. It has a way of entangling us when we least suspect. Luckily, there are other forces in our universe."

"Greater ones than prescience?" Paul asked, pressing him.

"If prescience alone existed and did everything, Sire, it would annihilate itself. To have nothing but prescience? Where could it be applied except to its own degenerating movements?"

"There's always the human situation," Paul agreed.

"A precarious thing at best," Edric said, "without confusing it by hallucinations."

"Are my visions no more than hallucinations?" Paul asked, mock sadness in his voice. "Or do you imply that my worshipers hallucinate?"

STILGAR, sensing the mounting tensions, moved a step nearer Paul and fixed his attention on the Guildsman reclining in the tank.

"You twist my words, Sire," Edric protested. An odd sense of violence lay suspended in the words.

Violence here? Paul wondered.

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They wouldn't dare! Unless (and he glanced at his guards) *the forces which protected him were to be used in replacing him.*

"But you accuse me of conspiring to make a god of myself," Paul said, pitching his voice that only Edric and Stilgar might hear. "Conspire?"

"A poor choice of word, perhaps, my Lord," Edric said.

"But significant," Paul said. "It says you expect the worst of me."

Edric arched his neck and stared sideways at Stilgar with a look of apprehension. "People always expect the worst of the rich and powerful, Sire. It is said one can always tell an aristocrat: he reveals only those of his vices which will make him popular."

A tremor passed across Stilgar's face.

Paul looked up at the movement, sensing the thoughts and angers whispering in Stilgar's mind. How dared this Guildsman talk thus to Muad'dib?

"You're not joking, of course."

"Joking, Sire?"

Paul grew aware of dryness in his mouth. He felt that there were too many people in this room, that the air he breathed had passed through too many lungs. The taint of melange from Edric's tank felt threatening.

"Who might my accomplices be in such a conspiracy?" Paul asked presently. "Do you nominate the Qizarate?"

Edric's shrug stirred the orange gas around his head. He no longer appeared concerned by Stilgar, who continued to glare at him.

"Are you suggesting that my missionaries of the Holy Orders, *all of them,* are preaching subtle falsehood?" Paul insisted.

"It could be a question of self-interest and sincerity," Edric said.

Stilgar put a hand to the crysknife beneath his robe.

Paul shook his head and said: "Then you accuse me of insincerity."

"I'm not sure that *accuse* is the proper word, Sire."

The boldness of this creature! Paul thought. And he said: "Accuse or not, you're saying my bishops and I are no better than power hungry brigands."

"Power hungry, Sire?" Again, Edric looked at Stilgar. "Power tends to isolate those who hold too much of it. Eventually, they lose touch with reality . . . and fall."

"M'Lord," Stilgar growled at him "you've had men executed for less!"

"Men, yes," Paul agreed. "But this is a Guild Ambassador."

"He accused you of an unholy fraud!" Stilgar said.

"His thinking interests me, Stil," Paul said. "Contain your anger and remain alert."

"As Muad'dib commands."

"Tell me, Steersman," Paul said, "how could we maintain this hypothetical fraud over such enormous distances of space and time without the means to watch every missionary, to examine every nuance in every Qizarate priory and temple?"

"What is time to you?" Edric asked.

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STILGAR FROWNED in obvious puzzlement. And then he thought: *Muad'dib has often said he sees past the veils of time. What is the Guildsman really saying?*

"Wouldn't the structure of such a fraud begin to show holes?" Paul asked. "Significant disagreements, schisms, doubts and confessions of guilt—surely fraud could not suppress all these."

"What religion and self-interest cannot hide, governments can," Edric said.

"Are you testing the limits of my tolerance?" Paul asked.

"Do my arguments lack all merit?" Edric countered.

Does he want us to kill him? Paul wondered. *Is Edric offering himself as a sacrifice?*

"I prefer the cynical view," Paul said, testing. "You obviously are trained in all the lying tricks of statecraft, the double meanings and the power words. Language is nothing more than a weapon to you and, thus, you try my armor."

"The cynical view," Edric said, a smile stretching his mouth. "And rulers are always notoriously cynical where religions are concerned. Religion, too, is a weapon. What manner of weapon then is religion when it becomes the government?"

Paul felt himself go inwardly still, a profound caution gripping him. To whom was Edric speaking? Damnably clever words, that were heavy with manipulation leverages—that subtle undertone of comfortable humor, the unspoken air of shared secrets; his manner said he and Paul were two sophisticates, men of a wider universe who understood things not granted common folk. With a feeling of shock, Paul realized that he had not been the main target for all this rhetoric. This affliction visited upon the court had been speaking for the benefit of others—speaking to Stilgar, to the household guards . . . perhaps even to the hulking aide.

"Religious *mana* was thrust upon me," Paul said. "I did not seek it." And he thought: *There! Let this man-fish think himself victorious in our battle of words!*

"Then why have you not disavowed it, Sire?" Edric asked.

"Because of my sister, Alia," Paul said, watching Edric carefully. "She is a goddess. Let me urge caution where Alia is concerned lest she strike you dead with her glance."

A gloating smile began forming on Edric's mouth, then was replaced by a look of shock.

"I am deadly serious," Paul said, watching the shock spread, seeing Stilgar nod.

In a bleak voice, Edric said: "You have mauled my confidence in you, Sire. And no doubt that was your intent."

"Do not be certain you know my intent," Paul said, and he signaled Stilgar that the audience was at an end.

To Stilgar's questioning gesture asking if Edric were to be assassinated, Paul gave a negative hand sign and amplified it with an imperative lest Stilgar take

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matters into his own hands now.

Scytale, Edric's aide, moved to the rear corner of the tank and nudged it toward the door. When he came near Paul, he stopped and turned that laughing gaze on Paul, and said: "If my Lord permits?"

"Yes, what is it?" Paul asked, noting how Stilgar moved close in answer to the implied menace from this man.

"Some say," Scytale said, "that people cling to Imperial leadership because space is infinite. They feel lonely without a unifying symbol. For a lonely people, the Emperor is a definite place. They can turn toward him and say: 'See, there He is. He makes us one.' Perhaps religion serves the same purpose, m'Lord."

SCYTALE NODDED pleasantly and gave Edirc's tank another nudge. They moved out of the salon, Edric supine in his tank, eyes closed. The Steersman appeared spent, all his nervous energies exhausted.

Paul stared after the shambling figure of Scytale, wondering at the man's words. A peculiar fellow, that Scytale, he thought. While he was speaking, he had radiated a feeling of many people—as though his entire genetic inheritance lay exposed on his skin.

"That was odd," Stilgar said, speaking to no one in particular.

Paul arose from the divan as a guard closed the door behind Edric and the escort.

"Odd," Stilgar repeated. A vein began throbbing at his temple.

Paul dimmed the salon's lights and moved to a window which opened onto an angled cliff of his Keep. Lights glittered far below—pigmy movement. A work gang moved down there bringing giant plasmeld blocks to repair a facade of Alia's temple which had been damaged by a freak twisting of a sandblast wind.

"That was a foolish thing, Usul, inviting that creature into these chambers," Stilgar said.

Usul, Paul thought. *My sietch name. Stilgar reminds me that he ruled over me once, that he saved me from the desert.*

"Why did you do it?" Stilgar asked, speaking from close behind Paul.

"Data," Paul said. "I need more data."

"Is it not dangerous to try meeting this threat *only* as a mentat?"

That was perceptive, Paul thought.

Mentat computation remained finite. You couldn't say something boundless within the boundaries of any language. Mentat abilities had their uses, though. He said as much now, daring Stilgar to refute his argument.

"There is always something on the outside," Stilgar said. "Some things best *kept* outside."

"Or inside," Paul said. And he accepted for a moment his own oracular/mentat final summation. Outside, yes. And inside—here lay the true horror. How could he protect himself from himself? They certainly were setting him

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up to destroy himself, but this was a position hemmed in by even more terrifying possibilities.

His reverie was broken by the sound of rapid footsteps. The figure of Korba the Qizara surged through the doorway backlighted by the brilliant illumination in the hallways. He entered as though hurled by an unseen force and came to an almost immediate halt when he encountered the salon's gloom. His hands appeared to be full of shigawire reels. They glittered in the light from the hall, strange little round jewels that were suddenly extinguished as a guardsman's hand came into view, closed the door.

"Is that you, m'Lord?" Korba asked, peering into the shadows.

"What is it?" Stilgar asked.

"Stilgar?"

"We're both here. What is it?"

"I'm disturbed by this reception for the Guildsman."

"Disturbed?" Paul asked.

"The people say, m'Lord, that you honor our enemies."

"Is that all?" Paul said. "Are those the reels I asked you to bring earlier?" He indicated the shigawire orbs in Korba's hands.

"Reels . . . oh! Yes, m'Lord. These are the histories. Will you view them here?"

"I've viewed them. I want them for Stilgar here."

"FOR ME?" Stilgar asked. He felt resentment grow at what he interpreted as caprice on Paul's part. Histories! Stilgar had sought out Paul earlier to discuss the logistics computations for the Zabulon conquest. Then the Guild Ambassador's presence had intervened. And now—Korba with histories!

"How much history do you know?" Paul mused aloud, studying the shadowy figure beside him.

"M'Lord, I can name every world our people touched in their migrations. I know the reaches of Imperial . . ."

"The Golden Age of Earth, have you ever studied that?"

"Earth? Golden Age?" Stilgar was irritated and puzzled. Why would Paul wish to discuss myths from the dawn of time? Stilgar's mind still felt crammed with Zabulon data—computations from the staff mentats: two hundred and five attack frigates with thirty Legions, support battalions, pacification cadres, and Qizarate missionaries . . . the food requirements (he had the figures right here in his mind) and melange . . . weaponry, uniforms, medals . . . urns for the ashes of the dead . . . the number of specialists—men to produce raw materials of propaganda, clerks, accountants . . . spies . . . and spies upon the spies . . .

"I brought with me the pulse-synchronizer attachment, also, m'Lord," Korba ventured. He obviously sensed the tensions building between Paul and Stilgar and was disturbed by them.

Stilgar shook his head from side to side. *Pulse-synchronizer?* Why would Paul wish him to use a mnemnonic flutter system on a shigawire projector? Why scan for specific data in histories? This was

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mental work. As usual, Stilgar found he couldn't escape a deep suspicion at the thought of using a projector and attachments. The thing always immersed him in varied and disturbing sensations, an overwhelming shower of data which his mind sorted out later, surprising him with information he had not known he possessed.

"Sire, I came with the Zabulon computations," Stilgar said.

"Dehydrate the Zabulon computations!" Paul snapped, using the obscene Fremen term which meant that here was moisture no man could demean himself by touching.

"M'Lord!"

"Stilgar," Paul said, "you urgently need a sense of balance which can come only from an understanding of long-term effects. What little information we have about the old times, the pittance of data which the Butlerians left us, Korba has brought it for you. Start with Genghis Khan."

"Genghis . . . Khan? Was he of the Sardaukar, m'Lord?"

"Oh, long before that. He killed . . . perhaps four million."

"He must have had formidable weaponry to kill that many, Sire. Lasbeams, perhaps, or . . ."

"He didn't kill them himself, Stil. He killed the way I kill, by sending out his legions. There's another emperor I want you to note in passing—a Hitler. He killed maybe fifteen million. Pretty good for those days."

"Killed. . .by his legions?"

"Yes."

"Not very impressive statistics."

"VERY GOOD, Stil." Paul glanced at the reels in Korba's hands. Korba stood with them as though he wished he could drop them and flee. "Statistics: at a conservative estimate, I've killed sixty-one billion, sterilized ninety planets, completely demoralized five hundred others. I've wiped out the followers of forty religions which had existed since . . ."

"Unbelievers!" Korba loudly protested. "Unbelievers all!"

"No," Paul said. "Believers."

"My Liege makes a joke," Korba said, voice trembling. "The Jihad has brought ten thousand worlds into the shining light of . . ."

"Into the darkness," Paul said. "We'll be a hundred generations recovering from Muad'dib's Jihad. I find it hard to imagine that anyone will ever surpass this." A barking laugh erupted from his throat.

"What now amuses Muad'dib?" Stilgar asked.

"I am not amused. I merely had a sudden vision of the Emperor Hitler saying something similar. No doubt he did."

"No other ruler ever had your powers," Korba argued. "Who would dare challenge you? Your legions now control all the known universe and all the . . ."

"The legions control," Paul said. "I wonder if they know this?"

"You control your legions, Sire," Stilgar interrupted, and it was obvious from the tone of his voice that he suddenly felt his own position in that chain of

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command, his own hand guiding all that power.

Having set Stilgar's thoughts in motion along the track he wanted, Paul turned his full attention to Korba. "Put the reels here on the divan." As Korba obeyed, Paul said: "How goes the reception, Korba? Does my sister have everything well in hand?"

"Yes, m'Lord." Korba's tone was wary. "And Chani watches from the spy hole. She suspects there may be Sardaukar in the Guild entourage."

"No doubt she's correct," Paul said. "The jackals gather."

"Bannerjee," Stilgar said, naming the chief of Paul's security detail, "was worried earlier that some of them might try to penetrate the private areas of the Keep."

"Have they?"

"Not yet."

"But there was some confusion in the formal gardens," Korba said.

"What sort of confusion?" Stilgar demanded.

Paul nodded.

"Strangers coming and going," Korba said, "trampling the plants, whispering to each other. I heard reports of some rather disturbing remarks."

"Such as?" Paul asked.

"Is this the way our taxes are spent? I'm told the Ambassador himself asked that question."

"I don't find that surprising," Paul said. "Were there many strangers in the gardens?"

"Dozens, m'Lord."

"Bannerjee stationed picked troopers at the vulnerable doors, m'Lord," Stilgar said. He turned as he spoke, allowing the salon's single remaining light to illuminate half his face. The peculiar lighting, the face, all touched a node of memory buried deep in Paul's mind—something from the desert. Paul didn't bother bringing it to full recall, his attention being focused on how Stilgar had pulled back mentally. The Fremen had a tight-skinned forehead which mirrored almost every thought flickering across his mind. He was suspicious now, rather profoundly suspicious of his Emperor's odd behavior.

"I don't like the intrusion into the gardens," Paul said. "Courtesy to guests is one thing, and the formal necessities of greeting an envoy, but this . . ."

"I'll see to removing them," Korba said. "Immediately."

"Wait!" Paul ordered as Korba started to turn.

IN THE ABRUPT stillness of the moment, Stilgar edged himself into a position where he could study Paul's face. It was deftly done. Paul admired the way of it, an achievement devoid of any forwardness. It was a Fremen thing: slyness touched by respect for another's privacy; a movement of necessity.

"What time is it?" Paul asked.

"Almost midnight, Sire," Korba said.

"Korba, I think you may be my finest creation," Paul said.

"Sire!" There was injury in Korba's voice.

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"Do you feel awe of me?" Paul asked.

"You are Paul-Muad'dib who was Usul in our sietch," Korba said. "You know my devotion to . . ."

"Have you ever felt like an apostle?" Paul asked.

Korba obviously misunderstood the words, but correctly interpreted the tone. "My Emperor knows I have a clean conscience!"

"Shai-hulud save us," Paul murmured.

The questioning silence of the moment was broken by the sound of someone whistling as he walked down the outer hall. The whistling was stilled by a guardsman's barked command as it came opposite the door.

"Korba, I think you may survive all this," Paul said. And he read the growing light of understanding on Stilgar's face.

"The strangers in the gardens, Sire?" Stilgar asked.

"Ahh, yes," Paul said. "Have Bannerjee put them out, Stil. Korba will assist."

"Me, Sire?" Korba betrayed deep disquiet.

"Some of my friends have forgotten they once were Fremen," Paul said, speaking to Korba, but designing his words for Stilgar. "You will mark down the ones Chani identifies as Sardaukar and you will have them killed. Do it yourself. I want it done quietly and without undue disturbance. We must keep in mind that there's more to religion and government than approving treaties and sermons."

"I shall obey the orders of Muad'dib." Korba whispered.

"The Zabulon computations?" Stilgar asked.

"Tomorrow," Paul said. "And when the strangers are removed from the gardens, announce that the reception is ended. The party's over, Stil."

"I understand, m'Lord."

"I'm sure you do," Paul said.

IX

Here lies a toppled god—
His fall was not a small one.
We did but build his pedestal,
A narrow and a tall one.
—Tleilaxu Epigram

ALIA CROUCHED, resting elbows on knees, chin on fists, and stared at the body on the dune—a few bones and some tattered flesh that once had been a young woman. The hands, the head, most of the upper torso were gone—eaten by the coriolis wind. The sand all around bore the tracks of her brother's medics and questors. They were gone now, all excepting the mortuary attendants who stood to one side with Hayt, the *ghola*, waiting for her to finish her mysterious perusal of what had been written here.

A wheat-colored sky enfolded the scene in the glaucous light common to midafternoon for these latitudes.

The body had been discovered several hours earlier by a low-flying courier whose instruments had detected a faint water trace

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where none should be. His call had brought the experts. And they had learned—what? That this had been a woman of about twenty years, a Fremen who was addicted to *semuta* . . . and she had died here in the crucible of the desert from the effects of a subtle poison of Tleilaxu origin.

To die in the desert was a common enough occurrence. But a Fremen addicted to *semuta,* this was such a rarity that Paul had sent her to examine the scene in the ways their mother had taught them.

Alia felt that she had accomplished nothing here except to cast her own aura of mystery about a scene that was already mysterious enough. She heard the ghola's feet stir the sand; she looked at him. His attention rested momentarily upon the escort 'thopters circling overhead like a flock of ravens.

Beware of the Guild bearing gifts, Alia thought.

The mortuary 'thopter and her own craft stood on the sand near a rock outcropping behind the ghola. Focusing on the grounded 'thopters filled Alia with a craving to be airborne and away from here.

But Paul had thought she might see something here which others would miss. She squirmed in her stillsuit. It felt raspingly unfamiliar after all the suitless months of city life. She studied the ghola, wondering if he might know something important about this peculiar death. A lock of his black-goat hair, she saw, had escaped his stillsuit hood. She sensed her hand longing to tuck that hair back into place.

As though lured by this thought, his gleaming gray metal eyes turned toward her. The eyes set her trembling and she tore her gaze away from him.

A Fremen woman had died here from a poison called "the throat of hell."

A Fremen addicted to *semuta.*

She shared Paul's disquiet at this conjunction.

The mortuary attendants waited patiently. This corpse contained not enough water for them to salvage. They felt no need to hurry. And they'd believe that Alia, through some glyptic art, was reading a strange truth in these remains.

No strange truth came to her.

There was only a distant feeling of anger deep within her at the obvious thoughts in the attendants' minds. It was a product of the damned religious mystery. She and her brother could not be *people.* They had to be something more. And the Bene Gesserit had seen to that by manipulating Atreides ancestry. Their mother had contributed to it by thrusting them onto the path of witchery.

AND PAUL perpetuated the difference.

The Reverend Mothers encapsulated in Alia's memories stirred restlessly, provoking *adab* flashes of thought: *Peace, Little One! You are what you are. There are compensations.*

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She summoned the ghola with a gesture.

He stopped beside her, attentive, patient.

"What do you see in this?" she asked.

"We may never learn who it was died here," he said. "The head, the teeth are gone. The hands . . . Unlikely such a one had a genetic record somewhere to which her cells could be easily matched."

"Tleilaxu poison," she said. "What do you make of that?"

"Many people can purchase such poisons."

"True enough. And this flesh is too far gone to be regrown as was done with your body."

"Even if you could trust the Tleilaxu to do it," he said.

She nodded and stood. "You will fly me back to the city now."

When they were airborne and pointed north, she said: "You fly exactly as Duncan Idaho did."

He cast a speculative glance at her. "Others have told me this."

"What are you thinking now?"

"Many things."

"Stop dodging my question, damn you!"

"Which question?"

She glared at him.

He saw the glare, shrugged.

How like Duncan Idaho, that gesture, she thought. Accusingly, her voice thick and with a catch in it, she said: "I merely wanted your reactions voiced to play my own thoughts against them. That young woman's death bothers me."

"I was not thinking about that."

"What were you thinking about?"

"About the strange emotions I feel when people speak of the one I may have been."

"May have been?"

"The Tleilaxu are very clever."

"Not that clever. You were Duncan Idaho."

"Very likely. It's the prime computation."

"So you get emotional?"

"To a degree. I feel eagerness. I'm uneasy. There's a tendency to tremble and I must devote effort to controlling it. I suddenly get. . .flashes of imagery."

"What imagery?"

"It's too rapid to recognize. They're flashes. Spasms. . .almost memories."

"Aren't you curious about such memories?"

"Of course. Curiosity urges me forward, but I move against a heavy reluctance. I think: 'What if I'm not the one they believe me to be?' I don't like that thought."

"And this is all you were thinking?"

"You know better than that, Alia."

How dare he use my given name? She felt anger rise and go down beneath the memory of the way he'd spoken: softly throbbing undertones, casual male confidence. A muscle twitched along her jaw. She clenched her teeth.

"ISN'T THAT El Kuds down there?" he asked, dipping a wing briefly.

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She looked down at their shadows rippling across the promontory above Harg Pass, at the cliff and the rock pyramid containing the skull of her father. *El Kuds—the Holy Place.*

"That's the Holy Place," she said.

"I must visit that place one day," he said. "Nearness to your father's remains may bring back memories I can capture."

She saw suddenly how strong must be this need to know who he'd been. It was a central compulsion with him. She looked back at the rocks, the cliff with its base sloping into a dry beach and a sea of sand—cinnamon rock lifting from the dunes like a ship breasting waves.

"Circle back," she said.

"The escort . . ."

"They'll follow. Swing under them."

He obeyed.

"Do you truly serve my brother?" she asked, when he was on the new course, the escort following.

"I serve the Atreides," he said, his tone formal.

And she saw his right hand lift and fall—almost the old salute of Caladan. A pensive look came over his face. She watched him peer down at the rock pyramid.

"What bothers you?" she asked.

His lips moved. A voice emerged, brittle, tight: "He was . . . he was . . " A tear slid down his cheek.

Alia found herself stilled by Fremen awe. He gave water to the dead! Compulsively, she touched a finger to his cheek, felt the tear.

"Duncan," she whispered.

He appeared locked to the 'thopter's controls and his gaze fastened to the tomb below.

She raised her voice: "Duncan!"

He swallowed, shook his head and looked at her, the metal eyes were now glistening. "I felt an arm . . . on my shoulders," he whispered. "I felt it! An arm." His throat worked. "It was . . . a friend. It was . . . my friend."

"Who?"

"I don't know. I think it was . . . I don't know."

The call light began flashing in front of Alia, their escort captain wanting to know why they returned to the desert. She took the microphone, explaining that they had paid a brief homage to her father's tomb. The captain reminded her that it was late.

"We will go to Arrakeen now," she said, carefully replacing the microphone.

Hayt took a deep breath and banked their 'thopter around to the north.

"It was my father's arm you felt, wasn't it?" she asked.

"Perhaps."

His voice was that of the mentat computing probabilities, and she saw he had regained his composure.

"Are you aware of how I know my father?" she asked.

"I have some idea."

"Let me make it clear," she said. Briefly, she explained how she had awakened to Reverend

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Mother awareness before birth, a terrified fetus with the knowledge of countless lives imbedded in her nerve cells—and all this after the death of her father.

"I know my father as my mother knew him," she said. "In every last detail of every experience she shared with him. In a way, I am my mother. I have all her memories up to the moment when she drank the Water of Life and entered the trance of transmigration."

"Your brother had once explained something of this."

"He did? Why?"

"I asked."

"Why?"

"A mentat requires data."

"Oh." She looked down below at the flat expanse of the Shield Wall—tortured rock, pits and crevices.

He saw the direction of her gaze and said: "A very exposed place, that down there."

"But an easy place to hide," she said. She looked at him. "It reminds me a little bit of a human mind . . . with all its concealments."

"Ahhhh," he said.

"Ahhh? What does that utterance mean—ahhh?" She was suddenly angry with him and the reason for it escaped her.

"You'd like to know what my mind conceals," he said. It was a statement, not a question.

"How do you know I haven't exposed you for what you are by my powers of prescience?" she demanded.

"Have you?" He seemed genuinely curious.

"No!"

"Sybils have limits," he said.

He appeared to be amused and this somewhat reduced Alia's anger. Amused? "Have you no respect for my powers?" she asked. The question sounded weakly argumentative even to her own ears.

"I respect your omens and portents perhaps more than you think," he said. "I was in the audience for your Morning Ritual."

"And what does that signify?"

"You've great ability with symbols," he said, keeping his attention on the 'thopter's controls. "That's a Bene Gesserit thing, I'd say. But, as with many witches, you've become careless of your powers."

She felt a spasm of fear and blared: "How dare you?"

"I dare much more than my makers anticipated," he said. "Because of that rare fact, I remain with your brother."

Alia studied the steel balls which were his eyes—no human expression there. The stillsuit hood concealed the line of his jaw. His mouth remained firm, though. There was great strength in it. . .and determination. His words had carried a reassuring intensity. "... dare much more ..." That was a thing Duncan Idaho might have said. Had the Tleilaxu fashioned their ghola better than they knew—or was this more sham, part of his conditioning?

"Explain yourself, ghola."

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"Know thyself, is that thy commandment?" he asked.

Again, she felt that he was amused. "Don't bandy words with me, you . . . you *thing*!" she said. She put a hand to the crysknife in its throat sheath. "Why were you given to my brother?"

"Your brother tells me that you watched the presentation," he said. "You've heard me answer that question for him."

"Answer it again . . . for me!"

"I am intended to destroy him."

"Is that the mentat speaking?"

"You knew the answer to that without asking," he chided. "And you know, as well, that such a gift wasn't at all necessary. Your brother already was destroying himself quite adequately."

She weighed these words, her hand remaining on the shaft of her knife. A tricky answer, but there was sincerity in the voice.

"Then why such a gift?" she probed.

"It may have amused the Tleilaxu. And it is true that the Guild asked for me as a gift."

"Why?"

"Same answer."

"How am I careless of my powers?"

"How are you employing them?" he countered.

HIS QUESTION slashed through to her own misgivings. She took her hand away from the knife and asked: "Why do you say my brother was destroying himself?"

"Oh, come now, child! Where are these vaunted powers? Have you no ability to reason?"

Controlling anger, she said: "Reason *for* me, mentat."

"Very well." He sadly glanced around at their escort, then returned his attention to their course. The plain of Arrakeen was beginning to show beyond the northern rim of the Shield Wall. The pattern of the pan and graben villages remained indistinct beneath a dust pall, but the distant gleam of Arrakeen could be discerned.

"Symptoms," he said. "Your brother keeps with him an official panegyrist who . . ."

"Who was a gift of the Fremen Naibs!"

"An odd gift from friends," he said. "Why would they surround him with flattery and servility? Have you really listened to this panegyrist? *'The people are illuminated by Maud'dib. The Umma Regent, our Emperor, came out of darkness to shine resplendently upon all men. He is our Sire. He is precious water from an endless fountain. He spills joy for all the universe to drink.'* Pah!"

Speaking softly, Alia said: "If I but repeated your words for our Fremen escort, they'd hack you into bird feed."

"Then tell them."

"My brother rules by the natural law of heaven!"

"You don't believe that, so why say it?"

"How do you know what I believe?" She suddenly experienced trembling that no Bene Gesserit powers could control. This ghola was having an effect she hadn't anticipated.

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"You commanded me to reason as a mentat," he reminded her.

"No mentat knows what I believe!" She took two deep, shuddering breaths. "How dare you judge us?"

"Judge you? I don't judge."

"You've no idea how we were taught!"

"Both of you were taught to govern," he said. "You were conditioned to an overweening thirst for power. You were imbued with a shrewd grasp of politics and a deep understanding for the uses of war and ritual. Natural law? What natural law? That myth haunts human history. Haunts! It's a ghost. It's insubstantial, unreal. Is your Jihad a natural law?"

"Mentat jabber," she sneered.

"I'm a servant of the Atreides and I speak with candor," he said.

"Servant? We've *no servants*; only disciples."

"And I am a disciple of awareness," he said. "Understand that, child, and you . . ."

"Don't call me child!" she snapped. She slipped her crysknife half out of its sheath.

"I stand corrected." He glanced at her, smiled and returned his attention to piloting the 'thopter. The cliff-sided structure of the Atreides Keep could be made out now, dominating the northern suburbs of Arrakeen. "You are something ancient in flesh that is little more than a child," he said. "And the flesh is disturbed by winds of womanhood."

"I don't know why I listen to you," she growled, but she let the crysknife fall back into its sheath and wiped her palm on her robe. The palm, wet with perspiration, disturbed her sense of Fremen frugality. Such a waste of the body's moisture!

"You listen because you know I'm devoted to your brother," he said. "My actions are clear and easily understood."

"Nothing about you is clear and easily understood. You're the most complex creature I've ever seen. How do I know what the Tleilaxu built into you?"

"By mistake or intent," he said, "they gave me freedom to mold myself."

"YOU RETREAT into Zensunni parables," she accused. "The wise man molds himself—the fool lives only to die." Her voice was heavy with mimicry. "Disciple of *awareness*!"

"Men cannot separate means and enlightenment," he said.

"You speak riddles!"

"I speak riddles!"

"I speak to the opening mind."

"I'm going to repeat all this to Paul."

"He's heard most of it already."

She found herself overwhelmed by curiosity. "How is it you're still alive . . . and free? What did he say?"

"He laughed. And he said, 'People don't want a bookkeeper for an Emperor; they want a master, someone who'll protect them from change.' But he agreed that destruction of his Empire arises from himself."

"Why would he speak so?"

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"Because I convinced him I understand his problem and will help him."

"What could you possibly have said to do that?"

He remained silent, banking the 'thopter into the downwind leg for a landing at the guard complex on the roof of the Keep.

"I demand you tell me what you said!"

"I'm not sure you could take it."

"I'll be the judge of that! I command you to speak at once!"

"Permit me to land us first," he said. And not waiting for her permission, he turned onto the base leg, brought the wings into optimum lift and settled gently onto the bright orange pad atop the roof.

"Now," Alia said. "Speak."

"I told him that to endure oneself may be the hardest task in the universe."

She shook her head wildly. "That's . . . that's . . ."

"A bitter pill," he said, watching the guards run toward them across the roof, taking up their escort positions.

"Bitter nonsense!"

"The greatest palatinate earl and the lowliest stipendiary serf share the same problem. You cannot hire a mentat or any other intellect to solve it for you. There's no writ of inquest or calling of witnesses to provide desired answers. No servant—or disciple—can dress the wound. You dress it yourself or continue bleeding for all to see."

She whirled away from him, realizing in the instant of action what this betrayed about her own feelings. Without wile of voice or witch-wrought trickery, he had reached into her psyche once more. How did he do this?

"What have you told him to do?" she whispered.

"I told him to judge, to impose order."

Alia stared out at the guard, marking just how patiently they waited there—how very orderly. "To dispense justice," she murmured.

"Not that!" he snapped. "I suggested that he judge, no more, guided by one overriding principle. . ."

"And that?"

"To keep his friends and destroy his enemies."

"To judge unjustly, then."

"WHAT IS justice? Two forces collide. Each may have the right in its own sphere. And here's where an Emperor commands orderly solutions. Those collisions he cannot prevent—he solves."

"How?"

"In the simplest way: he decides."

"Keeping his friends and also destroying his enemies."

"Isn't that stability? People want order, this kind or some other. They sit in the prison of their hungers and see that war has become the sport of the rich. That's a dangerous form of sophistication. It's disorderly."

"I will suggest to my brother that you are much too dangerous and must be destroyed," she said.

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"A solution I've already suggested," he said.

"And that's why you are dangerous," she said, measuring out her words. "You've mastered your passions."

"That is *not* why I'm dangerous." Before she could move, he leaned across, gripped her chin in one hand, planted his lips on hers.

It was a gentle kiss, brief. He pulled away and she stared at him with a shock leavened by glimpses of spasmodic grins on the faces of her guardsmen still standing at orderly attention outside.

Alia put a finger to her lips. There'd been such a sense of familiarity about that kiss. His lips had been flesh of a future she'd seen in some prescient byway.

Breast heaving, she said: "I should have you flayed."

"Because I'm dangerous?"

"Because you presume too much!"

"I presume nothing. I take nothing which is not first offered to me. Be glad I did not take all that was offered." He opened his door, slid out. "Come along. We've dallied too long on a fool's errand."

He strode toward the entrance dome beyond the pad.

Alia leaped out, ran to match his stride. "I'll tell him everything you've said and everything you did," she said.

"Good." He held the door for her.

"He will order you executed," she said, slipping quickly into the dome.

"Why? Because I took the kiss I wanted?" He followed her, his movement forcing her back. The door slid closed behind him.

"The kiss that *you* wanted!" Outrage filled her.

"All right, Alia. The kiss you wanted, then."

He started to move around her toward the drop field.

As though his movement had propelled her into heightened awareness, she realized his candor—the utter truthfulness of him. *The kiss I wanted,* she told herself. *True.*

"Your truthfulness, that's what's dangerous," she said, following him.

"You return to the ways of wisdom," he said, not breaking his stride. "A mentat could not have stated the matter more directly. Now—what is it you saw in the desert?"

She grabbed his arm, forcing him to a halt. He'd done it again—shocked her mind into sharpened awareness.

"I can't explain it," she said, "but I keep thinking of the face dancers. Why is that?"

"That is why your brother sent you to the desert," he said, nodding. "Tell him of this persistent thought."

"But why?" She shook her head. "Why face dancers?"

"There's a young woman dead out there," he said. "Perhaps no young woman is reported missing among the Fremen."

TO BE CONTINUED

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(*Continued from Page 2*)

"Quick! Bring your plunger!" rather than "Every time I do the dishes, water collects on my kitchen floor." And editors say "You have to learn the rules" instead of "Readers expect sufficiently meaningful communication."

As it happens, much of the time these perhaps subtle distinctions pass unhamperingly through the coarse meshes of everyday commerce. The plumber's friend saves the day, the tyro quickly learns which few simple tools will do 90% of what's required, and the bond issue for new municipal drains is safely delayed a few more years. Or, for that matter, the human habit of inertia is thus often proven right. It does turn out that some simple equivalent of stepping forward with your sleeves rolled up and a certain willingness to accept dirt on your elbows is the best possible solution.

But sometimes you get an aspirant who refuses to see the obvious, and who pictures editors, and also publishers, as fellow litterateurs, rather than as buyers. And every so often, then, if the tyro lacks shyness, the collision between the idealistic young creator and the sometimes bright, liberal, imaginative representatives of an inherently conservative phenomenon results in the creation of clouds of white-hot oompah.

Thus, *Bug Jack Barron,* by Norman Spinrad (Walker & Co., $5.95), a good book, an excellent idea and a fair piece of writing, is doomed to be obscured forever inside an expanding shell of churned gases. For the one thing you are not going to get, either from the editors who refused to buy it without changes or from the author who says words to the effect that the suggested changes were unconscionable, is a calm consideration of the obvious merits of this dirty, revolutionary, rabble-rousing screed.

As I say, this happens every so often. But let me tell you *Bug Jack Barron's* story:

Jack Barron, as a young university student, founded a third political party from a coalition of white and black social justice activists. The blacks apparently predominate, for one of them has become governor of Mississippi in the new city of Evers. More background on the SJS may be gathered from the fact that its founders still pride themselves in their undergraduate nickname of the Baby Bolsheviks.

Having grown a little older, Jack Barron one day appeared on a TV interview program called the Joe Swynne Show. Instead of being made a fool of, he turned the tables on Old Joe so magnificently that Jack was given his own show, and Joe has disappeared from the public eye. The

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show is now six years old, has an audience of 100,000,000, is a Wednesday-night viewing habit for statesmen, social outcasts, heads of all descriptions and other power brokers. It is called "Bug Jack Barron"; audience members call in on their vidphones, and Jack listens to what's bugging them, frequently also ringing in some representatives of whatever institution or trend is grinding down the original caller. Given vidphone facilities such as we will have in commercial service by the time of this story, Barron has a completely viable and effective format.

He is also considered to have sold out the SJS for pelf. This widely held opinion among his former comrades has caused his wife, Sara, to abandon him and become a Village fixture. But Jack is a howling commercial success and every Wednesday night after the show picks up a new blond bedmate resembling Sara.

Finally, there is the fascinating background political situation, whose salient organizational features, apart from the rise of the SJS, are the severe erosion of the GOP "which has elected only two presidents since Hoover" in a book written before November, 1968, and the division of the Democratic Party into the faction of Teddy the Pretender and the far more powerful establishment which is sponsoring a candidate also named Ted. (Hennering, in this case. Spinrad repeatedly assigns to his congruent characters similar names, for no apparent reason.) Given the relative impotence of both the newborn SJS and the moribund GOP, Hennering is the shoo-in bet. This is especially true because his sponsor is Benedict Howards, the rather mysterious, reclusive, fabulously wealthy Southwestern multibillionaire who controls the only commercially successful death-freezing process and is fighting hard to gain a monopoly by disguising the enterprise as a privately owned utility.

Okay, now there we are. What happens thereafter is that through his program Jack Barron stumbles across Benedict Howards's *real* mission, which is to market the immortality treatment his doctors have perfected and to conceal the fact that the treatment involves gland transplants from children. Meanwhile, as these steps are occurring, Barron becomes the presidential candidate of the GOP-SJS coalition that forms when Bug Jack Barron's ratings zoom, and Sara returns to Jack as Benedict Howards's emissary, in the mistaken belief that she is doing good. And all of this eventually resolves when Jack takes Howards apart on his show.

It is in the paragraph above, I think, that you will find the area in which judgment was exer-

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cised to the detriment of this book's appearance in print when it was first written.

For instance, an editor might very well ask if this plot summary does not in fact ring a little bit like an adolescent wish-fulfillment fantasy. And he or another editor who has some acquaintanceship with the real depth of even the average national political action might ask whether Spinrad doesn't make everything much too superficial and easy. A nit-picker such as myself might then chime in to wonder why Sara on Page XXX, for example, is revealed to have been motivated in an earlier action by something she doesn't even learn about until page XXXI. All of these are valid criticisms, and could be accompanied by as many more as one wished to make. But they are not valid criticisms on a valid level.

On that valid level, these are things either no more serious than similar features in a score of successful books published that same day, or else they are easily reparable with a half-hour's worth of blue penciling. (By the way, I have never seen an editor use a literally blue pencil). We are dealing here in a story with the lineaments of classic tragedy, and in that mode, as Roger Zelazny and several others have demonstrated, you are allowed to have people do the right things for silly reasons, and vice versa.

Or, let's cut through the knot: Spinrad is also the author of *The Men in The Jungle,* a book most people would find ludicrous, which I find inept, and which, except that it lacks some of the words in *Jack,* is equally "dirty." He does not appear to have had any trouble getting that one published. This fact alone, in my mind, constitutes a sufficient piece of evidence that merit is far from the only consideration in the buying of commercial literature.

Jack may not be the most ept piece of word-cobbling under the sun. In fact, I think that the next time Spinrad permits himself to write a book with an ordinary theme, his basic weaknesses as a plot constructor and motivator will not only be still as obvious as they were in *Jungle,* they will be easily visible in retrospect in *Jack,* where they don't really matter. The point I think is that Spinrad often uses representations of things, rather than the things themselves, and this doesn't always work. People in his stories have a habit of acting as *if* they were reacting to emotional crises which in fact Spinrad is rather weak at depicting. The reactions, however, are valid. Or, now, try this for the best example:

The culminating horror of the Howards immortality treatment is that it involves irradiating the (unspecified) glands of pre-adolescent children and then

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transplanting them into the hopeful bodies of the immortals. This does make Howards a villain supreme, because he is then able to deliberately offer this filthy immortality to the frail side of Jack's human nature. And it makes sense in terms of Spinrad's very well drawn background locale that most of the children surreptitiously purchased from their parents would be black, because a high percentage of our poor and gullible *are* black.

But considered as science fiction, this is incredible. In two ways. The process is barely described, because it is absolute nonsense to claim that you can beneficially transform the nature of glands by dosing them with enough roentgens to literally rot the flesh of the bodies in which human ontology placed them. Second, it would not have taken much trouble to work up some more coherent, equally horrible rationale involving the same elements. Then, clearly, since he didn't take the trouble, we can see that Spinrad not only reached a prior artistic decision to have the immortality bribe involve the mutilation of black children, at no matter what the would-be cost to technological credibility, but he did not care enough about credibility to even be graceful. You see what I mean about representations of things.

This is a book that drifts in and out between the realistic and the symbolic, each time taking what we may assume Spinrad thought was the best of either choice. It has a lot of what I tell my children are "grown-up words" in it—not without a certain irony (on my part), since they are for sale in the same places that sell comic books, and in rather more explicit usage, too. All of that very quickly just becomes part of the vehicle. What remains is a flawed but acceptable telling of a magnificent story; a representation of nobility, one might say, with a Mickey Mouse ending.

A book I enjoyed the daylights out of this month was Willard Bain's *Informed Sources* (Doubleday, $2.95), an 8½" x 11" paperback, which is about the death of Cock Robin and the end of the world. It is, however, written in the form of copy ripped right off the Teletype machines of Informed Sources, a fictional (?) press association which talks just like the AP and UPI, in jargon, cablese and filing code. On first reading, I found that it was only about half comprehensible (though wholly delightful, as we clever reviewers say) despite a certain tangential familiarity with the wire-service business. What I would have made of it in the days before I began hanging around city rooms,

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I can't imagine. It's full of puns on the medium itself, plus inside cracks at the management and technical methods of real wire bureaus, the institution of commercial journalism, etc. If you can read a wire book, or if you have the patience to glean what you can from this funny and pernicious document, with its crazed para-Mafia agents, "Turntable Tips," and BULLETIN CORTE MADERA, NOW (IS)—COMMUNICATION BETWEEN THE SOLOMON HERSHEYS BROKE DOWN EARLY TODAY AND HOURS LATER THERE WAS STILL NO INDICATION WHEN SERVICE MIGHT BE RESTORED, please do so.

Okay. Books we started and never, never finished:

A. E. Van Vogt, *The Silkie,* (Ace). "A brilliant new novel of a science-created super-race. By the author of *Slan, The Universe Maker,* etc." To my genuine regret, this brilliant new novel broke down very quickly, after an opening chapter which actually breathed with life and made me seriously wonder whether it wasn't time to take a long, hard reappraising look at a man who has not always been dealt with fairly by the literati, but who is not, sadly, good enough to crusade on behalf of.

One short take on two books: Olympia Press—yes, Virginia, *the* Olympia Press—has sent me two new novels, *Oracle of the Thousand Hands,* which is ambitious, cleverly done for a pastiche, and dull, and *Screen,* which is brilliant. *Screen,* which I guess is the science-fiction one, has to do with the common wish to enter the screen, become Buster Crabbe and get to go places with Dale Arden. Who you actually get to go places with in this book is Sophia Loren, Liz Taylor, Brigitte Bardot and Doris Day. Both books are by Barry Malzberg.

And let me inform you, with great pleasure, that Doubleday has published *Another Look at Atlantis and Fifteen Other Essays* by Willy Ley, at $5.95. This is a long-overdue book, as they say, containing fascinating representative samples from the column that has graced these pages ever since *Galaxy* began. For a detailed representation of the book's merits, please turn to Mr. Ley's column in this issue, which will, I'm sure, do more to endear you and fascinate you than could anything I would say.

Which does not prevent me from saying that I stayed up all night re-reading old favorites, and discovering one or two I'd missed, and musing on how very many of us must have learned almost all we know about the world and about the nature of things from this astonishing gentleman.

—ALGIS BUDRYS

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(*Continued from Page* 115)
"synchronous" with the sun, meaning that the orbital period of the probe would be equal to the period of rotation of the sun. The probe would seem to hover over one point of the sun's equator and with some luck one might be able to follow the career of a sunspot from its birth to its final disappearance. Other things that have not been done yet are a mission to the minor planet Eros, which has part of its orbit between the orbits of the earth and of Mars, and a mission to a small comet.

As I explained in an earlier column a mission to one of the small comets that has its perihelion near the orbit of earth would require a good deal of preliminary observational work because the orbits of these small comets are not sufficiently well known. This may be the reason why the Europeans did not consider, or rejected, the idea of a mission to a comet. And this may also be the reason why a mission to Eros, which would really be somewhat easier than a mission to Mars, has not been investigated in detail. Astronomical interest in this very unusual asteroid was confined to observing it when it came close. While its orbit is reasonably well known, the knowledge is apparently not refined enough to permit the calculation of the orbit of a space probe that has to accomplish a close flyby.

But the orbit of Jupiter is well known. The planet can be seen all the time except when, at intervals of one year and one month, it passes behind the sun as seen from earth.

EVERYBODY knows Jupiter is the largest and most massive planet in our solar system. Few people realize just how massive it is. Its mass is equal to 317 earth masses; the mass of all the other planets combined is equal to only 129 earth masses. Its volume is equal to 1312 earth volumes; the volume of all the other planets adds up to only 896 earth volumes.

Iovis pater, as the Romans called Jupiter, rotates on its axis in 9 hours and 55 minutes and the body of the planet is flattened by this fast rotation to an extent that can be clearly seen in a telescope. Measured from one point of its equator to the opposite point of its equator the diameter of the planet is 88,700 miles. Measured from pole to pole it is only 82,790 miles. How much of the planet is core, how much of it is "mantle" (consisting of ice, or solid gases, or both) and how much is gaseous atmosphere is something we don't know, but the overall density is 1.334 times that of water. The orbital period

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is 11.86 years but because the orbital period of the earth is only one year Jupiter is "in opposition" every 399 days. The term "in opposition," originally just an astrological term, means that Jupiter is in a place in the sky that is directly opposite to the place of the sun at the same moment; Jupiter, the earth and the sun will form a straight line. But even then the distance between the Earth and Jupiter is still 390 million miles.

The orbit of Jupiter is only slightly inclined to the ecliptic, the plane of the earth's orbit, namely by 1 degree and 18½ minutes of arc. Still, because Jupiter's orbit is so large the planet, in its two extreme positions, will be about 13 million miles "above" or "below" the ecliptic, which fact can complicate the flightpath of a space probe at certain times. Whether this complication has to be taken into account or not depends entirely on the time the probe is sent on its way. If the takeoff time has been selected carefully, the probe can travel all the way staying in the ecliptic and arrive at its goal when Jupiter moves through the ecliptic. The orbital motion of the planet, incidentally, is fairly slow, amounting to only 8.08 miles per second.

The reasons why Jupiter is of such great scientific interest are many. There is the question of the depth of Jupiter's atmosphere, the temperature of the planet's "surface" (if it has a plainly defined surface), the surfaces of the large moons of Jupiter, the mysterious red spot and quite a number of others. One interesting aspect is that Jupiter is the only planet in our solar system, in addition to the earth, that is *known* to have a magnetic field. One of the surprises of the exploration of the nearby bodies in space by space probes was that our moon as well as the planets Venus and Mars were found to lack magnetic fields. As regards Mercury we don't know yet, and the same lack of knowledge pertains to the large outer planets with the exception of Jupiter.

Because Jupiter has a magnetic field it produces the same kind of irregularity—call it a bubble, if you like—in the solar wind as does the earth. The sub-atomic particles streaming out from the sun are forced by the magnetic field to flow around the planet at some distance. Inside this "magnetopause," as it is called, only relatively few but very energetic sub-atomic particles are found. A long distance beyond the planet the particles of the solar wind will flow together again. The region beyond the planet *before* the solar wind becomes normal again is called the "magnetic tail."

The magnetic tail of our earth

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is believed to be at least one million miles in length, that of Jupiter is probably about 100 million miles long. The point where the magnetopause is closest to the planet is, of course, the subsolar point, the place where the sun is directly overhead. In the case of Jupiter the distance from the planet's center to the subsolar point of the magnetopause is very nearly twenty-five diameters of the planet, or about 2.2 million miles in the sunward direction. This means that all four of the large moons of Jupiter are inside the magnetopause while our moon is outside the earth's magnetopause, though it is touched, on occasion, by our magnetic tail.

THE FUNDAMENTAL problem for a Jupiter mission is how long a probe would need to reach Jupiter and what velocity is required. The shortest transfer ellipse that could be used at all with existing rockets would take 400 days; the so-called Hohmann orbit, which takes the longest time but requires the least fuel expenditure, would take 1000 days. Four possibilities have been calculated and they look like this:

DURATION (days)	VELOCITY (miles per sec.)
1000	8.76
800	8.82
600	9.13
400	10.07

The Germans picked an intermediate case, an 850-day flight that requires 8.8 miles per second, 1.8 miles per second more than is needed to reach our moon.

The next step was to see how much a Jupiter probe could weigh. An Atlas rocket with a Centaur rocket as the upper stage could deliver about 1200 pounds to the orbit of Jupiter along the 850-day flightpath. If a Titan 3C rocket with a Centaur as the upper stage were used the weight of the probe could be as high as 5500 pounds. The Jupiter V rocket could deliver nearly 20,000 pounds to Jupiter, but that won't happen. For two reasons: the rocket is much too expensive and there is no need to send 20,000 pounds to Jupiter.

If the weight of the probe can be kept drastically below the one thousand pound mark the mission could be flown using the *Europa* rocket of ELDO (European Launcher Development Organization) which, naturally, is what the Germans hope to do.

During the 850 days the probe is underway the earth will complete two and one third orbits, while Jupiter will travel slightly less than one quarter of its orbit. At the time of arrival the earth will be almost as close to Jupiter as it can be, while the sun will be off to one side and therefore will not interfere with the transmission of data from the probe to the earth.

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Data transmission, or rather the power for data transmission, is a special problem in the case of a Jupiter probe. Solar panels, as used for probes to Venus and Mars, are virtually useless at Jupiter's distance from the sun. In Jupiter's orbit a square yard of panel surface would receive only 1/27 of the sunlight that is received at the orbit of earth. The inverse square law that is involved here just does not make any exceptions, no matter how worthy the cause. Hence the necessary power must be supplied in another way; the number of solar panels needed would be an unbearable weight penalty even if somebody could figure out how to mount them.

Fuel cells for a flight duration of 850 days, plus a week or so of reserve power, would weigh even more, almost eight times as much as the solar panels. An atomic reactor like SNAP 10 A would fall about midway between solar panels and fuel cells.

Fortunately there is one additional possible power source, a battery based on a radioactive isotope of an element that is not normally radioactive. Here again the fact that the trip lasts 850 days is important. Radioactive isotopes with a short half-life cannot be considered even if they had other factors in their favor. Nor is a long half-life the only consideration.

RADIOACTIVE substances produce three kinds of radiation: alpha rays, which are actually the nuclei of helium atoms; beta rays, which are streams of electrons; and gamma rays, which are true rays like X-rays. A battery emitting X-rays would ruin quite a number of possible measurements. It would greatly reduce the effectiveness of the probe. An isotope emitting alpha particles only would generally be the best, but there are not many pure alpha emitters and not a single one is in ample supply. Beta particle emitters that do not emit X-rays are more numerous and can be used. Electrons that escape from the battery, when striking another part of the probe, will cause X-rays to be emitted where they strike. Fortunately the electrons are not very energetic as a rule, so that they can be stopped by a shield of some kind. Of course the shield will then emit X-rays, but the shield could be located in such a manner that the X-rays will go out into space and not touch another part of the probe.

So we are now looking for an isotope that emits electrons only and that has a useful half-life, at least twice as long as the travel time of the probe, but not too long.

It is easy to see why an isotope with a half-life of, say, 500 years would not do. An isotope with a long half-life is evidently not

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very active and we need a high degree of activity because we need energy. A half-life of about ten or twelve years would be about right; active enough to furnish energy, but not diminishing much in 2-1/3 years.

Offhand one should think that a nice complete periodic table that lists all the known isotopes and their main characteristics should give us quite a choice. But when you check such a table you find out that half-lives either span thousands of years or are reckoned in minutes, hours and days. Only a very few isotopes have half-lives suitable for use in a Jupiter probe, and most of these must be disregarded for other reasons. There is, for example, radium-228 with a half-life of 6 years which would be fine, but the isotope is much too rare since even the "common" radium isotope is a great rarity. There is holmium-166 with a half-life of not quite 30 years; it also is much too rare. There is tritium, triple-weight hydrogen, but that is the isotope that goes into the hydrogen bomb. And it is a gas, of course, which may have drawbacks for the intended purpose.

The best suited isotope is one with a bad reputation due to fallout discussions, namely strontium-90 with a half-life of 28 years. Strontium-90 is a beta emitter, does not emit X-rays directly and is a metal with a melting point at 800° Celsius. (1472° Fahrenheit).

The power consumption of the probe has been estimated to be between 200 and 300 watts; the transmitter must have a minimum of 33 watts, preferably a little more. A strontium-90 battery would be capable of furnishing these amounts, though it may be necessary to add a storage battery to take care of the peak load that will develop during the actual flyby.

THE OVERALL shape of American space probes, Surveyor as well as Mariner, has always reminded observers of giant insects, largely because of the winglike solar panels. The projected shape of the European Jupiter probe does not resemble an insect, or anything else for that matter.

The base of the probe is an antenna dish slightly over 8 feet in diameter. A round box with a diameter of 5 feet and 7 inches and a depth of about 38 inches is mounted on top of the antenna dish. This box will hold the scientific instrumentation and the electronic gear, expected to have an overall weight of 220 pounds. Tubular struts which begin at the rim of the antenna dish and which also hold the instrument box in place will meet about 5½ feet above the upper lid of the box

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to form an apex. The isotope battery will be mounted on that apex, to be as far from the instruments as is possible in such a configuration. In the empty space above the box the fuel tank and rocket chambers for the midcourse engine are mounted, which puts the exhaust nozzle roughly in the center of gravity of the whole probe. For attitude correction additional cold gas thrusters are mounted around the rim of the antenna dish.

The maximum diameter of the probe would be just about 8½ feet, the overall height close to 13½ feet and the overall weight is estimated at about 1100 pounds. This is just about, as has been mentioned earlier, what an Atlas-Centaur rocket could move to Jupiter. For the *Europa* rocket it is too heavy.

Of course the Europeans have some development plans for something larger and more powerful than the *Europa,* though nobody can say at what time these plans might turn into reality. A collaboration of more than half a dozen countries, at least two of them in financial difficulties, is no simple thing.

But in the meantime it is nice to know that existing American rockets could send a Jupiter probe on its way. —WILLY LEY

GLASSY ELECTRONICS

Did you know that a new invention—the glassistor—has joined the transistor as an electronic switch and amplifier? It's nothing more than a thin film of special glass that has the ability to vary its resistance under the influence of a control voltage. Coated directly onto wires, it takes even less space than the transistor. It should be helpful in designing electronic brains small enough for robots!

It has another advantage. In the past, the electronic systems of orbiting satellites have been harmed by the radiation in space. But the glassistor's characteristics are not affected by such radiation.

From a military view, though, glassistors may prove a mixed blessing. Our proposed anti-ballistic missiles (the ones kicking up all the fuss) depend on the ABM emitting a blast of X-rays that will destroy the directing electronics of attacking missiles. With the glassistor in those missiles, they would be invulnerable to anything but a direct hit—difficult to guarantee, given the present state of the ABM art.

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RESCUE TEAM

by Lester del Rey

"WHAT on earth for?" President Moody is said to have asked when told that huge funds were needed to develop a robot. To which the Secretary of Space replied: "For nothing on Earth, ma'am!"

The story is probably apocryphal, since robots antedate her administration. Plans for a crude, self-guided machine to explore Mars date back to the legendary Sputnik age. But certainly space flight made the robot necessary. Men are designed for Earth's atmosphere, but robots can work in a vacuum or on alien planets where man can go only after a robot task force has prepared the way. The human cargo on the first stellar expeditions slept in frozen suspension, cared for by a robot crew until the new colony worlds were made safe for them. It is only natural that modern stellar colonies are ruled as often by robots as by men.

In fact, it was taken as axiomatic that no technical race could distrust these intelligent products of technology. Or so it was before our messages from the Roger MechNab Expedition.

MechNab's mission was to explore a star that had just turned red giant and to test our theories that such a star is one that has used up its hydrogen fuel—in switching to helium, it cools and expands to engulf the orbits of its planets. The expedition found proof of the theories—and much more.

Half a light-year from the ruined sun, a huge ship was located. We had finally met an alien race—one badly in need of rescue, since its ship was too primitive, however brave the effort.

Robots sped at once toward the ship to offer aid, while men prepared to follow on mobile platforms. But rather than being welcomed, the robots were immediately attacked by dozens of tiny ships. Men armed and rushed to help, but not before a number of robots were injured. Pederson's cover shows a rear-guard robot hurtling toward a human friend for assistance, as described by space phone.

Fortunately the aliens recognized men as protoplasmic fellow beings and a truce was arranged. Their initial hostility had been caused by their incredible psychopathic fear of mechanical life. We understand their ship is being towed to our system now, and it is hoped the aliens will soon lose their peculiar belief that anything not of flesh and blood is less than human.

No pictures of the aliens are available as yet. But it is reported that their form is rather beautiful —not unlike a terrestrial octopus.

—LESTER DEL REY

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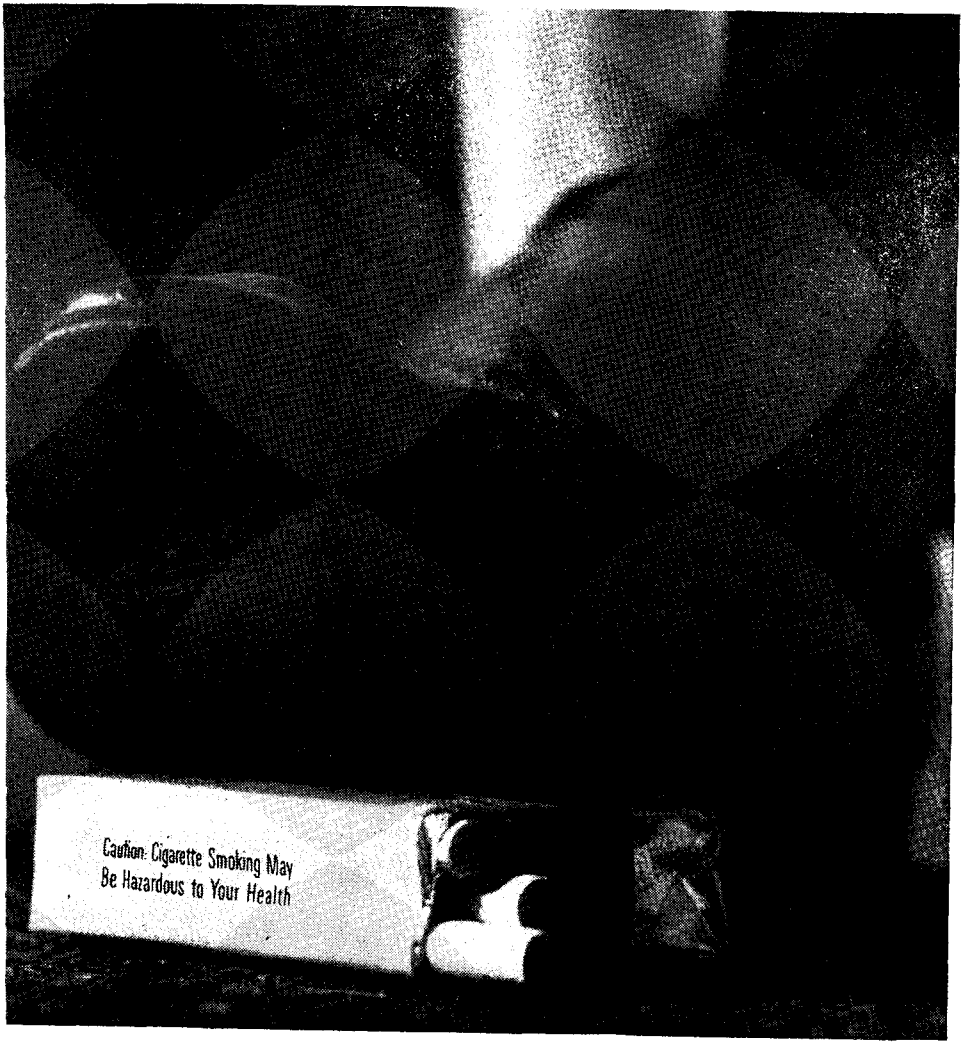

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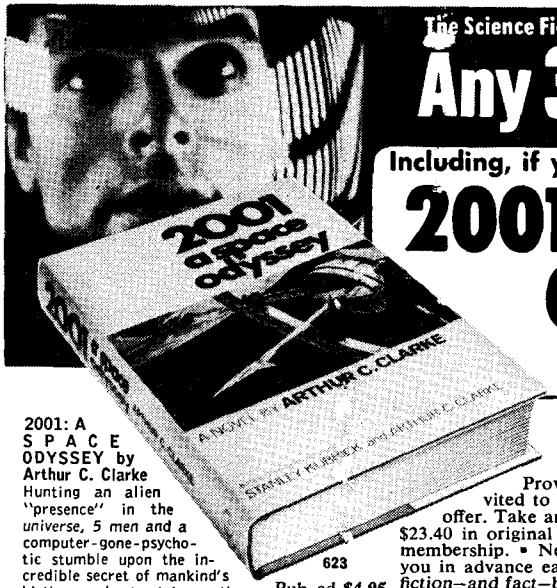

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